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ABSTRACT

An annotated bibliography of studies dealing with social reinforcement in diverse psychological and educational contexts is given. The research reviewed covers the period from 1964 to 1972, and individual studies are classified according to classes of variables which have been found to moderate the effectiveness of social reinforcement. All told, 234 studies, representing a wealth of theoretical and empirical evidence, are summarized. (Author)

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AN ANNOTATED BIBLIOGRAPHY ON SOCIAL REINFORCEMENT:

EVALUATIVE ABSTRACTS OF RESEARCH AND THEORY

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This paper is an annotated bibliography of studies dealing with social reinforcement in diverse psychological and educational contexts. The research reviewed covers the period from 1964 to 1972 and individual studies are classified according to classes of variables which have been found to moderate the effectiveness of social reinforcement. All total, 234 studies representing a wealth of theoretical and empirical evidence, are summarized.

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Introduction

The research abstracts presented in this report are the result of an extensive review of theory and empirical evidence concerning social reinforcement. A brief description concerning the manner in which the literature review was conducted, the subsequent organization of research topics and the current format employed in presenting the abstracts should facilitate the use of this document.

It was initially deemed appropriate that the three research associates responsible for conducting the literature survey each direct their reviewing efforts to the different fields of concern that have examined and discussed social reinforcement concepts. The areas were identified and divided among the reviewers as follows:

I. Contingency management, learning theory, educational psychology, personality theory.

II. Attitude theory, person perception, nonverbal communication, group dynamics, decision theory.

III. Motivation theory, wage and salary administration, leadership theory.

Upon conclusion of the survey, an analysis of the research revealed that specific areas of interest could be identified within the body of studies that had been reviewed and which were largely independent of the particular "fields" in which they had been conducted; i.e., leadership, educational psychology, decision making etc. The analysis indicated that the emphasis of research has been upon process and situational variables that moderate the effectiveness of social reinforcement. It is classes of these variables that have served to organize most of the surveyed research.

The topics that were subsequently distinguished and used to classify each of the studies are as follows:

Topic Number	Topic
1	Characteristics of the Subject, e.g., clinical abnormality, parental association, socioeconomic status, sex, age, race, personality characteristics.
2	Characteristics of the Reinforcing Agent
3	Instrumental Behaviors, e.g., verbal behavior, classroom behavior.

4	Dynamics of the Social Reinforcement Process, e.g., reinforcement schedules, vicarious reinforcement, awareness of performance-reward contingencies, motivation theory, satiation of social approval.
5	Incentives, e.g., variety of social incentives, comparison of social vs. non-social incentives.
6	Scaling of Incentives.
7	Reinforcement Parameters in Daily Life
8	Research Reviews
9	Fort Ord Merit Reward System

Following this introduction is a topic and reference index. In the first column to the immediate right of each reference is the page number of this document on which the research abstract is presented. The second column to the right presents the topic number(s) that corresponds to the numbering system above. This numbering system enables references to be identified according to their subject matter. Some studies have multiple topic references indicating that the research is relevant to each of the topics identified. In such a series, the topic references are ordered from most directly relevant to least directly relevant.

The abstracts themselves appear alphabetically according to senior author and adhere, for the most part, to a standard format. The subject or objective of the research is first identified. Methods and results of the study immediately follow. Topic reference numbers appear again with the abstract in the right hand corner of the page. Page numbers are presented at bottom center.

A review of the literature concerning social reinforcement is presented in AFHRL-TR-74-9(I).

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Adam, E. E., Jr. An analysis of changes in performance quality with operant conditioning procedures. Journal of Applied Psychology, 1972, 56, 480-486.

Subject: The objectives of the study were a) to investigate the magnitude and direction of a change in output quantity and quality when the response reinforcement contingency is changed from emphasizing performance quantity to emphasizing quality (and from quality to quantity); b) to rank the reinforcers, monetary reward, and verbal reinforcement according to their influence on the change in output quantity and quality when the contingency relationship is changed from emphasizing quantity to emphasizing quality (and from quality to quantity); c) to determine whether changing from high quality performance to high quantity performance meets more resistance than does changing from high quantity performance to high quality performance.

Methods: 160 college students performed a routine, repetitive task (collating six punched and interpreted data processing unit record cards, one from each of six boxes and also removing the error cards as he collated from the six boxes) for which he received verbal reinforcement or monetary reinforcement. Quantity or quality established the performance reward contingency at first. Midway through the session, the contingency was shifted for those groups that were to be changed from emphasizing quantity to quality (or from emphasizing quality to quantity). Subject was not openly told of the contingency shift, but was expected to infer the shift through the change in the response-reinforcement contingency.

Results: Results indicate that a) when the performance/reward contingency was shifted from quantity to quality, behavior was not significantly changed by either monetary or verbal reinforcers, b) when contingency was shifted from quality to quantity, behavior significantly changed using either reinforcer--i.e., quality fell from high to low and quantity increased from low to high, c) the verbal reinforcer was either equal to or greater than the monetary reinforcer, d) shifting from quality to quantity produced greater performance changes than vice versa, and e) conditioning facilitated high levels of performance when compared to absence of conditioning.

Allen, S. A., Spear, P. S. and Lucke, J. R. Effects of social reinforcement on learning and retention in children. Developmental Psychology, 1971, 5(1), 73-80.

Subject: The study concerned itself with determining the effects of social reinforcement on motivation, learning and retention. It also looked at sex and age differences.

Methods: There was a total of 192 subjects in the first (48 boys and 48 girls) and second (48 boys and 48 girls) grades. Subjects individually performed a discrimination task presented by means of a slide projector. Subjects were to select the correct member of a pair of slides by pushing a button below the slide they thought to be correct. A red light came on over the correct slide after the subjects responded irrespective of whether the answer was correct or not. Subjects were assigned to three reinforcement groups receiving a) praise, b) criticism, or c) no reinforcement. Subjects were also assigned either an easy or a hard discrimination task. They were allowed to terminate the experiment whenever they wished.

The dependent measures were 1) time in task (persistence was viewed as an index of motivation), 2) response latency, 3) total number of trials, and d) number of errors. Subjects were given the same discrimination task to accomplish one week after the first trial. For this task the dependent measures considered were time in retention task and number of errors in the retention task.

Results: A) A 3(reinforcement) x 2(task) x 2(age of subject) x 2(sex) x 2(experimenter) analysis of variance was run.

B) Latency increased with criticism and was lower for the other two reinforcement conditions ($p<.001$).

C) Older subjects increased response latency in reinforcement or criticism and was lower for the no reinforcement condition.

D) Younger subjects under positive or neutral reinforcement had faster latency than under criticism ($p<.05$).

E) Younger subjects performed better and for longer under the easy task, while the opposite held for older subjects (interaction $p<.025$).

F) Subjects made fewer errors under positive or neutral than under criticism conditions.

G) Subjects remained longer in the retention task under the criticism condition than the other conditions ($p<.025$).

Altman, K. I. and Linton, T. E. Operant conditioning in the classroom setting: A review of the research. The Journal of Educational Research, 66, 6, 1971.

The authors have grouped the literature under two broad headings.

A. Teacher Attention.

1. Baer and Wolf (1968 a & b) have shown that attention whether positive or negative increases behaviors if the attention is contingent upon focal behaviors.

2. Other studies however (e.g. Becker, et al., 1967) showed that positive reinforcement of "appropriate" behavior inhibits the repeated use of inappropriate ones whereas ignoring deviant behaviors did not reduce them.

3. Many studies have shown that teacher disapproval may be positively reinforcing for some disruptive classroom behaviors.

B. Peer Attention.

Perhaps the peculiar finding that teacher disapproval leads to increases in disruptive behaviors is due to an increased level of attention by the peer group. The hypothesis of interest therefore is that peer groups can control the behaviors of focal individuals.

One study had group benefits (early dismissals, free time) contingent upon the performance of some experimental subjects previously judged to be disruptive. Analysis showed that the experimental subjects did improve their behaviors. However, this study confounded peer reinforcement and reinforcement in general and no conclusions could be strained.

C. Token Reinforcement.

1. Token reinforcement refer to the granting of tangible reinforcers (tokens) which may be used to obtain other reinforcers (money, etc.).

2. Studies in educational settings have shown that token reinforcement economies do work. (An interesting adaptation is by the use of token punishement. In this study by Habl et al. (1968 b) disruptive behaviors resulted in "points" being tallied. Each point accumulated reduced the break between class periods by ten seconds. This was very successful). However the crucial points to token economies are

a) the reinforcement must be contingent and consistent, and

b) the tokens must "buy" appropriate reinforcers

D. Vicarious Reinforcement.

1. Not much research done on this but the effects seem weak and short-lived. At any rate the observer should be contingenty reinforced occasionally as well as vicariously.

E. Problems with behavior engineering research.

1. Must get the teacher's cooperations, and
2. Problems of reliable measurement of behavior.

Anderson, E. C. Promoting career information-seeking through group counselor's cues and reinforcements. Unpublished doctoral dissertation. University of California, Los Angeles, 1970, Dissertation Abstracts International, 1971, 31 (7-A), 3257.

Subject: The study investigated the differential effects of two theoretically based independent variables: cues and reinforcements upon information-seeking activities. Questions by the group of counselors which asked the counselee about his attempts and intents to seek career information were used as cues and positive verbal statements by the counselors were used as reinforcements.

Methods: 60 male veterans of the U. S. Armed Services who were classified as high or low on three mediating variables (need for social approval, internal or external control of reinforcement, and self-evaluation of career development) were randomly assigned to one of the four experimental treatment groups (cues and reinforcement; cues and no reinforcement; no cues and reinforcement; and no cues and no reinforcement) or to the nonconvening control group. These were eight 6-man experimental groups. Dependent variable of the study was information seeking activities outside of the counseling sessions relative to educational and vocational matters (librarian's record of career-related inquiries, self-reports by the subjects during the counseling interview, post treatment structured interview, score on self-evaluation of Career Development Scale).

Results: Results indicate that cues were more effective than no cues on two of the dependent measures and on the Self-Evaluation of Career Development Scale, while reinforcement versus no reinforcement failed to show significant differences on any of the dependent measures. None of the mediating variables seemed capable of identifying individuals who would score high or low in the dependent measures; however, those who scored high on the need for social approval did attend more counseling sessions than the low scorers. Testing treatment mean differences, the groups which received both cues and reinforcements demonstrated greatest effectivenss.

Anderson, K. A. Experimenter reinforcement and modeling effects on a verbal operant in an interview setting. Unpublished doctoral dissertation. Washington State University, 1970. Dissertation Abstracts International, 1970, 31 (6-B), 3697-3698.

Subject: The effects of modeling alone, modeling plus reinforcement, reinforcement alone, and using neither modeling nor reinforcement on the relative frequency of emission of a specified verbal operant were compared. It was hypothesized that modeling would be the most effective technique for manipulating verbal behavior in this setting, with differential reinforcement contributing little or nothing.

Methods: The experimental setting was an interview in which child-rearing practices were discussed with each subject individually. Forty undergraduate, single women were randomly and individually assigned to one of four treatment groups as follows: Group I-modeling only, Group II-modeling plus reinforcement, Group III-reinforcement only, Group IV-control. Each interview consisted of four phases.

Group I: 1) experimenter noted frequency of "kid" or "child" in subject,
2) experimenter modeled "kid,"
3) experimenter modeled "child,"
4) experimenter modeled kid.

The other three groups varied these phases depending on condition, i.e., modeling plus reinforcement or reinforcement alone. Reinforcement was defined a priori as experimenter's simultaneous head nod and saying "mmm-hmm." The dependent variable was the proportion of "kid" responses of the total "kid" plus "child" responses in Phases II, II and IV.

Results: An Analysis of Variance supported the hypothesis that experimenter modeling is an effective means of manipulating the frequency of a selected verbal operant in a typical interview setting. Groups I and II tended to say "kid" relatively more frequently when "kid" was modeled, and tended to say "kid" relatively less frequently when "child" was modeled. Groups III and IV did not appear to condition.

Anderson, R. C., Kulhavy, R. W. and Andre, Thomas, Feedback procedure in programmed instruction. Experimental Publication System. October, 1970, 8, Ms 303-304.

Subject: The literature review showed that KCR (Knowledge of Correct Response) after every frame is not superior (in terms of student "learning") to either not providing feedback nor to providing it in an intermittent fashion. The aim was to study the effects of KCR in programmed learning. It was hypothesized that KCR may disrupt student's attention; and presenting answers on the same page as the frame results in students "involuntarily" cheating, therefore no learning can occur. Two experiments are reported. Experiment I used two procedures to try to increase attendance.

Method: Experiment I

Subjects were n = 168 (Educational Psychology students). After subjects were trichotomized on verbal ability they learned a programmed course. Eight different types of feedback used are as follows: 1) 0% KCR; 2) 100% KCR; 3) KCR-R (for correct answer only); 4) 10% KCR-R (KCR present for 10% of correct answers randomly); 5) KCR-W (for wrong answer only); 6) TO (15 seconds delay after an error); 7) COR (KCR for right answers and program presented frame again after an error); 8) VOL (student could chose whether he desired feedback or not). Dependent measure was a standard test on the course content (multiple choice).

Results: 100% KCR groups performed better than 0% KCR groups. The range of mean correct performance on criterion was 68.7 (100% KCR) to 61.3 (10% KCR-R) to 57.9 (0% KCR) - $p < .05$ - (inference is difficult because the range is so small).

Experiment II

Method: 1) Replication of Experiment I. 2) Some groups had KCR presented together with the frame (PEEK group). 3) All other conditions of feedback remained essentially the same. 4) Used a control group who had no instruction just criterion test.

Results: Students in PEEK group performed the poorest and students in the KCR-100% did the best. Students in PEEK made the fewest mistakes during the instruction.

Arvey, R. D. and Dunnette, M. D. Task performance as a function of perceived effort-performance and performance-reward contingencies, Office of Naval Research Technical Report, 1970.

Subject: This research hypothesized that two types of beliefs influence performance: 1) a person's belief (expectancy) that the expenditure of effort will lead to a high performance level or being designated as an effective performer (Expectancy I); and 2) a person's belief (expectancy) about whether being designated an "effective performer" will result or lead to certain reward outcomes (Expectancy II).

Methods: 180 male college undergraduates performed an arithmetic task under different conditions of beliefs about whether their efforts would lead to their being designated a "top performer" and whether being designated a "top performer" would lead to an additional reward beyond the reward given for participating in the experiment. Subjects were classified into high, middle, or low ability subgroups based on their scores on the American College Math Test.

Results: 1) Expectancy I, or the beliefs that effort will result in effective performance had a motivational impact on performance, i.e., the higher the expectancy, the higher the performance levels. This finding contradicts Atkinson's hypothesis that individuals perform best when expectancy approaches 5. 2) Goal setting (to be a top performer) and Expectancy I apparently operate in an additive fashion to influence performance. 3) Expectancy II or the belief that effective performance will lead to rewards was not a significant variable influencing performance. 4) Ability was more highly related to performance than expectancies I or II.

Ault, R. L., and Vogler, R. E. Discriminative and reinforcing functions of four verbal stimuli. Psychological Resports, 1969, 24, 555-562.

Subject: The study attempted to show that, in the absence of any other cues (i.e., mechanical, instructional, gestural, verbal during the operant period) blank signified general encouragement and correctness to subjects. If blank is then used in combination with an ambiguous cue which is intended to (but may not) indicate correct (the word "right"), subject will be slower in becoming aware of the response-reinforcement contingency due to misinterpretation of the cues, and fewer subjects in the right group will become aware. If blank, however, is used in combination with an unambiguous cue indicating correct (the word "correct"), subject will shift his interpretation of the meaning of blank from correct to incorrect. He will become aware of the contingency sooner than subjects in the right group and will become aware at about the same time as subjects in the other groups who are presented with unambiguous stimuli for incorrect responses (the words "wrong" and "incorrect"). It is also expected that among those subjects who become aware, only those who also report in the post session interview that the stimulus was reinforcing will, in fact, show an increase in the correct response class.

Methods: Forty introductory psychology students were divided into four groups: Right blank, Wrong blank, Correct blank and Incorrect blank. Subjects were presented 3 x 5 cards with a verb centered on back. Below each verb were four pronouns: I, we, they, and he. He was to make-up a sentence using one of the four pronouns and the verb and say it aloud. The first ten trials were used to assess operant rates for using the pronouns for which each response was followed by "fine." For the remaining 60 trials the reinforcement was administered according to the group to which they were assigned and what pronoun was designed as correct (I or they were correct for half and he or we were correct for the other half).

Results: Only those subjects who were both aware of the response-reinforcement contingency and for whom the appropriate contingent stimuli were, in fact, reinforcing conditioned. The Right-blank group was significantly slower in learning than the Correct-blank, Wrong-blank, and Incorrect-blank groups, indicating the ambiguity of "right" as a discriminative stimulus. A comparable number of subjects in each group reported the contingent stimuli to be reinforcing, thus showing the necessity of awareness to conditioning.

Babad, E. Y. A cognitive analysis of the "social deprivation-satiation effect." Unpublished doctoral dissertation, Duke University, 1971, Dissertation Abstracts International, 1971, 32 (3-B), 1867.

Subject: To offer a cognitive interpretation of the "Social Deprivation-Satiation Effect" (SDSE). The effect is characterized by an inverse relation between the frequency of social reinforcement received in a standard treatment period and the effectiveness of that reinforcer in a subsequent test. Children subjected to a deprivation treatment (in which they receive social reinforcement in a low frequency) typically make a greater number of "correct" responses in a discrimination test when the correct response awards the subject a social reinforcement than children receiving a satiation treatment involving a high frequency of noncontingent reinforcement.

The cognitive interpretation of SDSE claims that the effect is mediated by the learning of reinforcement value of the particular source of the reinforcing stimuli. It stresses the role of the information extracted from the deprivation and satiation treatments, and focuses on the child's perception of the contingencies of the interaction between himself and a particular experimenter. Two hypotheses were tested as follows:

a) that SDSE is a person-specific effect, not readily generalizable to other reinforcing persons, and b) that the SDSE pattern can be created by providing the subjects appropriate information input without subjecting them to actual deprivation or satiation treatments.

Methods: In Experiment I subjects received a deprivation or satiation treatment and then were given a 75 trial discrimination test. In Experiment II subjects received two remote treatments from the experimenter and were given a third treatment from a second experimenter. In Experiment III subjects received information about the reinforcing characteristics of the experimenter prior to the actual treatment.

Results: The two hypotheses were confirmed with middle-class groups. The independent variables, however, failed to produce differential effects in the low-class children. The article suggested that low-class children failed to cognize as hypothesized due to a combination of: a) long-term social deprivation, b) an unstable environment which increases dispositions to react to the immediate and concrete and c) the arousing nature of the experimental situation.

Baker, J. M. Children's imitative responses as a function of socio-economic class, incentive-oriented set and reinforcement. Unpublished doctoral dissertation. University of Arizona, 1970. Dissertation Abstracts International, 1970, 31(4-B), 2252.

Subject: The study reports that there is some research which suggests that children of lower socioeconomic class backgrounds may have poor imitative or modeling skills. The purpose of this study was to examine the effects of socioeconomic class and other variables upon the imitative responses of young children. The following hypotheses were made: 1) middle class children will display a greater frequency of imitative responses than will lower class children, 2) attention directing cues in the form of incentive-oriented instructions will facilitate imitation for all subjects, 3) instructions to imitate will increase the frequency of imitative responses for all subjects, 4) lower class boys will display fewer imitative responses than will lower class girls or middle class children of either sex, and 5) positive reinforcement of imitation will increase the frequency of imitative responses in lower class children.

Methods: Kindergarten age children from lower and middle class families were individually exposed to a female model who displayed certain verbal and motor responses while playing with toys. Half the subjects received incentive-oriented instructions which were designed to increase attention to the model's behavior and half received neutral instructions. Subjects were then allowed to play with the toys for a two minute period and any responses which were the same as those made by the model were recorded. At the end of this period, they were instructed to imitate the model and their imitative responses were again recorded. During the second part of the study, half the children were reinforced with M&M candies for their imitative responses and half were not reinforced.

Results: A 2 x 2 x 2 analysis of variance examined effects of socioeconomic class, instructions and sex. First hypothesis was confirmed. The second hypothesis was not. The third hypothesis was confirmed. There was no overall significant sex effect but when lower class subjects were compared to all other subjects, a significant t was obtained, thus confirming the fourth hypothesis. The analysis of the effect of reinforcement was somewhat inconclusive. A repeated measure analysis of variance showed that both the reinforcement and the nonreinforcement subjects significantly increased their imitative responses and that there were no significant differences between the groups. It was suggested that these results might be due to other reinforcers, for example, experimenter attention, operating for both groups or to an increase in attention to the model during the second phase of the experiment.

Baldwin, T. L. An exploratory investigation of incentive contrast. Unpublished doctoral dissertation. The University of Wisconsin, 1968. Dissertation Abstracts, 1968, 28 (11-A), 4472-4473.

Subject: Three hypotheses were tested concerning the occurrence of incentive contrast in human behavior as follows: 1) a contrasting change in the incentive value associated with one situation can be brought about by changing the rewards in another situation. 2) This contrast effect should be directly related to the similarity of the two situations. 3) The contrast effect should occur under both conditions of skill and chance, but the effects should be greater in the skill condition.

Methods: 32 fifth and sixth grade boys alternated between two teaching situations. The "teachers" were the discriminative stimuli. The operant consisted of answering the "teacher's" questions. The reward was positive feedback and a visible token, supported by a grab-bag prize.

One half of the subjects alternated between two teaching machines and the others alternated between a human teacher and a machine. The skill-chance orientation was manipulated through the use of a task to which either skill or chance instructions could be applied.

Approximately the same number of responses were rewarded in both situations until a base performance rate was established. The reinforcement was then decreased in one situation by a decrease in the frequency of rewards in that situation. The frequency of reward remained the same in the other situation. Five measures of incentive were derived from time intervals within the entire sequence of responses emitted by the subject.

Results: No demonstration of incentive contrast was observed. Incidental observation: although they could not be interpreted as incentive contrast, effective responses occurred in the constant-value situation immediately after the reward decreased in the variable situation. Subjects spent more time studying examples and showed shorter feedback latencies.

Throughout the experiment pauses following negative reinforcement were longer than pauses following positive reinforcement.

Skill-instructed subjects spent more time attending to the task than chance-instructed subjects.

Subjects who alternated between human teacher and teaching machine tended to show faster responses immediately before and after receving feedback.

Barnhart, J. E. The acquisition of cue properties by social and nonsocial events. Child Development, 1968, 39(4), 1237-1245.

Subject: The purpose of the study was to demonstrate that when two stimuli are present and operating in a situation, a child will learn to orient selectively toward and attend to the stimulus which provides informative cues for his behavior, whether these stimuli are social or nonsocial in nature.

Methods: 64 second graders learned to attend to either experimenter or a light panel for cues to solve a discrimination task. The second stage was concerned with the generalized effects of the conditioning to attend, since on a second task maintenance of attention to the same stimulus could either facilitate or impair appropriate responding.

The design was a 2 (cue constancy: same or shifted in the two problems) x 2 (stimulus: behavior of experimenter or light panel) x 2 (order of testing shape task or color task first) x 2 (sex of subject).

Results: The lights were found to be the more salient cue, being easier to learn to attend to in Task 1. A significant difference was found in both errors and trials to criterion on Task 2, between subjects who were shifted to the alternative and those who had the same stimulus on both tasks. If the cue was the same, subjects learned extremely rapidly; if the cue was changed, learning the discrimination with the new materials was markedly retarded.

Baron, R. M. The SRS model as a predictor of Negro responsiveness to reinforcement. Journal of Social Issues, 1970, 26 (2), 61-81.

Subject: The article attempts to demonstrate the relevance of an interpersonally oriented incongruity model (SRS model) to understanding Negro responsiveness to social reinforcement. The SRS model assumes the existence of an incongruity sensitive mechanism which is rooted in the individual's past reinforcement history and is an important determinant of his present receptivity to social reinforcement. The social reinforcement standard (SRS) is assumed by the model to define a preferred region around which the individual seeks to secure future social reinforcement.

(no methodology)

Results: The article reports a series of studies in a review-like fashion (no thorough explanation of methods or data analysis) carried out with disadvantaged youth which suggests that the proposition (SRS model) has relevance to understanding Negro responsiveness to social reinforcers designed to shape both performance and self-evaluation. The strongest derivation of the model is the notion that Negroes would find a low rate of approval from a white authority figure, at least under certain conditions, more appropriate and preferred than a high rate of approval. Yet an emphasis on a single social reinforcement standard appeared not to work as well as a focus on multiple social reinforcement standards which are specific to behavior, source, type of reinforcer, and situation.

Baron, R. M., Heckenmueller, J. and Schultz, S., III. Differences in conditionability as a function of race of subject and prior availability of a social reinforcer. Journal of Personality, 1971 39(1), 94-111.

Subject: The general issue that this study investigates is how an individual's past reinforcement history is likely to effect his responsivity to subsequent social reinforcement experiences, i.e., how variations in the prior availability of a social reinforcer effect its subsequent efficacy. General paradigm has been to confront subjects with sequential changes in the rate of provision of a particular class of social stimuli. High or low levels of verbal approval are dispensed. The present report focuses on some serendipitous findings involving differences in black-white conditionability to a white reinforcing agent.

Methods: 60 female college students (40 white and 20 black) experienced a prior availability (PA) phase and a test phase. In an interview (PA phase) the subject was given verbal reinforcement, i.e., "good," on a fixed interval schedule (every 50 seconds or 20 seconds, for twelve or thirty stimulus presentations, respectively). This constituted a manipulation of prior availability of social stimuli-reinforcers as PA12 or PA30. In the test phase, the subject received a reinforcement, i.e., "good," from the experimenter according to a 100% fixed ratio reinforcement schedule for "correct" responses to ninety pictures presented (six blocks of fifteen trials each). Postexperimental questionnaires were administered. A 2(race) x 2(PA12 or PA30) x 6(blocks of trials) analysis of variance was used.

Results: The strongest finding was a significant main effect for race, indicating that black subjects were more responsive than white subjects to a white examiner's verbal reinforcements. For black but not for white subjects there was limited support for Gewirtz's inverse availability hypothesis, i.e., black subjects in the PA12 group conditioned more than black subjects in the PA30 group, but this difference was pronounced only for the initial reinforced trials. Correlational analysis for white subjects revealed no relationship between postexperimental attitude measures and conditioning scores. For the black subjects, however, positive correlations were found for the PA12 group (positive correlation between amount of conditioning and favorability of attitudes toward the experimenter and the task) and negative correlations for the PA30 group (of the same two variables). This directional difference approached significance.

Baron, R. M., Jackson, J. and Fish, B. Long and short term determinants of social reinforcer effectiveness. Journal of Personality and Social Psychology, 1972, 24, 122-131.

Subject: The study investigated the effects of short term situational variations in the availability of a social stimulus on the efficacy of that stimulus as a social reinforcer and as also affected by race of subject. It was hypothesized that the introduction of a black reinforcing agent in an academic setting should constitute a sufficiently unique stimulus configuration so as to make salient short term social reinforcement availability effects. A further purpose of the study was to explore with the use of a postexperimental questionnaire the possibility that the presence of a black, as opposed to a white, experimenter would change the meaning of the social stimulus "good."

Methods: 40 undergraduate students received twelve versus thirty presentations of the social stimulus "good" during an initial interview task by a black reinforcing agent. This initial interview task involved responding to various questions about college life. This was followed by an emotional labeling task (test phase). A total of ninety pictures were presented to the subject for which he was to label the emotion of the pictured individual. The first fifteen were designated as the operant series and no reinforcement was dispensed. The category used least often (i.e., positive or negative) was designated as the "correct" response for the remaining seventy-five trials. The correct responses in these trials evoked a reinforcement (i.e., "good") from the experimenter according to a 100% fixed ratio reinforcement schedule.

Results: Unlike an earlier study (Baron, Heckenmueller and Schultz, 1971) which investigated the same independent variable, using a white reinforcing agent, variations in prior availability of reinforcement were found to exert a stronger differential effect than race of subject. Specifically, low initial availability produced significantly more conditioning across race of subject on the emotional labeling task than did high initial availability. An explanation of why the earlier finding of greater responsiveness of black to white subjects disappeared and variations in situational availability became prepotent is offered in terms of the perceptional and motivational implications of confronting a black as opposed to a white reinforcing agent.

Baron, R. M., Robinson, E. L., and Lawrence, S. The effectiveness of social reinforcement as a function of changes in rate of reinforcement. Journal of Experimental Social Psychology, 1968, 4, 123-142.

Subject: The study investigates subjects' affective and behavioral reactions to social reinforcer inputs that deviate in both degree and direction from experimentally manipulated base-line levels of social reinforcement. The senior author has previously suggested a model of the determinants of social reinforcer effectiveness which assumed that the individual's social reinforcement history produce an internal norm or standard against which the adequacy of present social reinforcement is judged. This social reinforcement standard (SRS) is assumed to define a preferred region around which one seeks to secure future social reinforcement. Substantial discrepancies from the SRS, whether in a positive or a negative direction, are assumed to produce considerably negative affect because of the validity of one's construal of the reinforcement properties of the environment is challenged.

Behaviorally, it was expected that the introduction of uncertainty will lead the individual to increase the variability of his behavior in an attempt to ascertain what response pattern is likely to produce a rate of reinforcement that better approximates his SRS. Thus, the initial impact of a substantial discrepancy is likely to be a general decrease in level of performance.

Specifically the following two hypotheses were tested:
1) There will be an interaction between variations in base line rate of social reinforcement and the degree of change or discrepancy in determining conditionability, which has the following form: subjects who have previously encountered a low rate of social reinforcement will condition better with a moderately positive discrepancy in rate of reinforcement than they will with an extremely positive discrepancy or a rate of reinforcement which matches their base line rate, and subjects who have previously encountered a high rate of social reinforcement will condition better with a rate which matches this rate than at rates which are either moderately or widely discrepant.
2) It is also hypothesized that subjects' affective reactions (e.g., changes in positivity of their mood) will be a complex function of the interaction between variations in base line rate of social reinforcement and the amount of change that subjects encounter on subsequent trials. The form of this interaction is assumed to follow the same pattern as that predicted for subjects' conditioning behavior.

Methods: 120 subjects were divided into two groups, receiving either 100% or 33% reinforcement for the emission of the "correct" emotional-labeling response during an acquisition phase of 60 trials (i.e., judge the emotional state of a person from a facial photograph). This phase was followed by 60 trials during which conditions of none, or low change, moderate change and substantial change from the base

line rates were established, thereby giving us three positive discrepancy groups and three negative discrepancy groups of 20 subjects each. Changes in the effectiveness of social reinforcement were assessed by comparing, through the use of difference scores, the average number of correct responses made during the last two blocks of the shift phase with the average number of correct responses made during the last two blocks of the acquisition series.

Results: As hypothesized, a significant interaction between the initial rate of reinforcement and amount of change was obtained. A negative accelerated linear trend was found for the 100% groups and a quadratic trend peaking at the moderate change level for the 33% groups. These results were interpreted as indicating the importance of direction as well as of the magnitude of change. Contrary to a second hypothesis, positivity of subjects' mood changes was significantly affected only by magnitude of change. It was also found that subjects who valued the experimenter's approval and who encountered a substantial decrement in rate of approval were more likely to be resistant to extinction and to volunteer for an unpleasant experiment than were their counterparts who received a substantial increase in rate of approval.

Barrett, G. V. Research models of the future for industrial and organizational psychology. Paper presented at APA, September, 1970.

Reviews past research in industrial psychology and suggests optimal research methodologies for industrial and organizational psychology in the future.

Cites the uncritical acceptance of Maslow's need hierarchy, and the fact that it took 25 years before the theory was empirically tested and found wanting (Hall & Nougaim, 1968; Beer, 1968; Braun, 1969).

On the other hand, he reports supporting evidence (Andrews, 1967; Cummin, 1967; Wainer & Rubin, 1969) for McClelland's concept of motivation.

Conclusion: Suggests that psychologists should adopt standardized techniques for the measurement of job satisfaction, turnover, effectiveness, etc., in order to avoid the situation in which a number of studies of the same construct do not collectively point in any direction because of differences in measurement techniques.

Barton, K. Block manipulation by children as a function of social reinforcement, anxiety, arousal and ability pattern. Child Development, 1971, 42(3), 817-826.

Subject: The purpose of this study was to replicate previous studies which showed that social reinforcement was more effective with High Verbal-Low Spatial skill (HV-LS) than with High Spatial-Low Verbal (HS-LV) skill and to explore possible reasons for the interactions between ability pattern and type of reinforcement. If HV-LS and HS-LV subjects perform differently because of differences in anxiety level (based on performance-anxiety relationship literature), social reinforcement may have something to do with arousing anxiety in HS-LV subjects.

Methods: 64 fourth and fifth grade children identified as HS-LV or HV-LS played with wooden blocks under conditions of social reinforcement or no social reinforcement. Number of blocks used and complexity of structure made were assessed. Verbal anxiety and physiological arousal were monitored throughout the experiment.

Results: The HV-LS subjects used more blocks and made more complex models than did the HS-LV subjects. The anxiety and arousal data did not support the hypothesis that anxiety and arousal are increased in HS-LV subjects and decreased in HV-LS subjects in response to social reinforcement.

Bergan, A., McManis, D. L. and Melchert, P. A. Effects of social and token reinforcement on performance. Perceptual and Motor Skills, 1971, 32 (3), 871-880.

Subject: The WISC BLOCK DESIGN is a popular children's I.Q. test which has found its great advantage in that performance on it may be indicative of cerebral malfunction (physiological). There is also controversy over whether I.Q. test for children should be administered with verbal reinforcement.

The object of the study was to investigate whether two types of reinforcement (tokens or verbal) could affect WISC performance.

Methods: 48 caucasian, fourth graders, (24 males, 24 females). scoring between 80-120 on I.Q. test formed the subject samples. A pre-test of the WISC was used to equate three groups of children for both accuracy and speed of performance. Individuals across groups were also matched on these variables. Children were then tested on the WISC Block Design three weeks after the pretest. After each correct block location children were reinforced as follows:

Group I. verbal reinforcement and praise
Group II. white and red chips which could be cashed for money
Group III. standard instructions--no reinforcement

Results: 1) Pre-post difference scores were obtained and placed in a 2 x 3 factorial (sex x reinforcement). 2) Boys were more accurate under the token reinforcement condition (post test compared to pre-test) than under the verbal or control conditions. 3) However, the girls were more accurate under social rather than token or control conditions. 4) Boys were faster under social rather than token or control conditions. 5) Girls were faster under both reinforcements, rather than control.

Berger, C. R. The effects of influence feedback and need influence on the relationship between incentive magnitude and attitude change. Unpublished doctoral disseration. Michigan State University, 1968. Dissertation Abstracts International, 1969, 30(1-A), 385-386.

Subject: Dissonance and incentive theory formulations relative to attitude change were discussed. The study attempted to produce both dissonance and incentive effects, depending on persons' levels of need to influence.

High in need-to-influence persons would regard the opportunity to influence others as sufficient justification for engaging in belief-discrepant behavior; however, low need-to-influence persons should stress other loci of justification such as monetary incentives.

It was also hypothesized that if a person with high need to influence took a belief-discrepant position on an issue and successfully persuaded another person to adopt that position, the high need-to-influence communicator would manifest greater self-persuasion than would a successful low need-to-influence communicator. A third hypothesis predicted that high need-to-influence communicators would display greater self-persuasion than would low need-to-influence communicators.

Methods: Measures of need to influence and of attitudes toward college student draft deferments were initially obtained from undergraduate students during class time. Subjects in the main experiment were offered either $2.50 or $.50 to write essays favoring the elimination of draft deferments for college students. Most subjects strongly opposed this position initially. After subjects wrote their essays, the essays were taken to another room where bogus information was put on each. Some subjects received comments and ratings which indicated successful influence, while other subjects received failing information. After subjects read the comments on their essays, attitudes toward the draft deferment issue were again measured.

Results: No support was found for the predicted inverse relationship between incentive magnitude and attitude change among low need-to-influence persons. High need-to-influence persons who received success feedback tended to manifest greater self-persuasion than did successful low need-to-influence persons. High need-to-influence persons displayed greater persuasion than did low need-to-influence persons.

Berger, S. M. and Ellsbury, S. W. The effect of expressive verbal reinforcements on incidental learning by models and observers. The American Journal of Psychology, 82 (3), 1969, 333-341.

Subject: The aim of the study was to observe whether the expressiveness with which verbal reinforcement is administered will affect Observer recall of incidental cues. Specifically, the hypothesis was that expressive "right" feedback would lead to more incidental recall than expressive "wrong" feedback.

Methods: Subjects were 120, divided into 60 observers and 60 models. Two subjects were brought to an experimental room where one subject was posed as a model (S) while the other was posed as an observer. Both Model and Observer read a non-sense syllables presented on a drum but Model read it aloud and paired it with a number from 1-10. The experiment was posed as an ESP study in which the experimenter was supposedly mentally pairing each non-sense syllable with a number and the Model was to attempt to guess what number the experimenter had paired. The experimenter then either said "right," "wrong" or nothing, in an enthusiastic or neutral tone on a prearranged schedule. After the last trial of the experiment manipulation checks were made (i.e., did subjects perceive the reinforcement as being differentially enthusiastic) and subjects were asked to recall as many syllables as possible.

Results: 1) Subjects in the enthusiastic condition recalled more correct syllables than subjects in the non-enthusiastic condition ($p < .01$). 2) Subjects who received "right" reinforcement recalled more than those in the "wrong" or "nothing" reinforcement. 3) No interactions resulted.

Birney, S. D. Effects of verbal feedback on concept specific-anxiety. Unpublished doctoral dissertation. Colorado State University, 1970. Dissertation Abstracts International, 1971, 32(2-B), 1203-1204.

Subject: The dissertation investigated the relationship between verbal feedback and concept-specific anxiety in a dyadic interaction. The experimental conditions involved three different rates of verbal feedback a) VI eight seconds, b) VI twenty seconds, and c) no feedback. The two control conditions were 1) discussion of an experimentally neutral topic and 2) a pretest-posttest only group.

Methods: Subjects were selected based on having a high score on the Concept-Specific Anxiety Scale (CAS) with respect to snakes. Subjects were interviewed in an acoustic chamber with the experimenter in an adjacent room; verbal interaction was achieved via an audio communication system. All subjects initially discussed a neutral topic (snakes) or the control topic (the war in Vietnam). All feedback to subjects was provided by a pre-recorded set of interjections and comments. Following the experimental session, posttest CAS measures were taken.

Results: Discussion of a high-anxious topic with verbal feedback tends to facilitate increases in anxiety for males, whereas, females tend to decrease in anxiety by mere discussion of the topic. Confounding measurement problems were discussed.

Black, R. W. Incentive motivation and the parameters of reward in instrumental conditioning. Nebraska Symposium on Motivation, 1969, Vol. 17, 85-137.

Subject: This report discusses the role of reward and reinforcement in simple learning situations involving instrumental and appetitive conditioning.

Summary: 1) A primary mechanism of reinforcement seems to be incentive-motivational because the effect of reward magnitude on performance is so rapidly reversible. 2) The apparent reinforcement value of a reward appears to depend not only on its magnitude or the amount of consummatory behavior it evokes but upon the consistency with which such behavior occurs. 3) The sources of reward appear to be multiple, i.e., a multiplicity of stimuli could serve as rewards.

Blain, M. J. and Ramirez, M., III. Increasing sociometric rank meaningfulness, and discriminability of children's names through reinforcement and interaction. Child Development, 1968, 39(2), 949-955.

Subject: The study was done to determine the effects of interaction and reinforcement on sociometric rank, meaningfulness, and discriminability of Low Rank (LR) children's names. The following predictions were made: a) If children of LR on low discriminability (LD) are accorded reinforcement in the presence of their peers, then the sociometric rank, meaningfulness, and discriminability of their names will be increased; and b) If interaction with peers is allowed without reinforcement, then there will be an increase in sociometric rank and meaningfulness, but not in discriminability.

Methods: Subjects were 177 children in the fourth and fifth grades. They were divided into eight sex-grade groups, two for each sex-grade combination. An index of peer acceptance was obtained for each subject within the eight sex-grade groups on the basis of sociometric rank, meaningfulness for each name was determined by tabulating the total number of associations elicited when subjects were asked to free-associate to the four LR names of their sex-grade group. A measure of discriminability for each name was obtained by dividing the total number of associations to each name by the number of idiosyncratic associations produced.

The experimental groups were composed of one LR, LD subject (Ego) and four of his or her sex-grade classmates who had originally ranked him low. The experimenter would give social rewards only to Ego, who was always said to have done the best. The interactive group procedure was similar to the reinforcement group, except no reinforcement was administered. Control groups were used to yield an index of stability over time of the various measures used.

Results: Results indicated that sociometric rank and meaningfulness of names can be altered through interaction alone, whereas discriminability depends on interaction involving some degree of social reinforcement (either positive or negative).

Blank, H. D. and Monge, R. H. Effects of awareness of alternative incentive magnitude and shifts in magnitude on card sorting. Psychological Reports, 1970, 27, 119-125.

Subject: The purpose of the study was to compare the absolute and relative interpretations of incentive magnitude. It was hypothesized that a difference in performance favoring the high incentive-magnitude group would be obtained only under the relative condition, i.e., when the size of the alternative incentive was known to subjects. A second objective was to investigate the relational hypothesis under conditions of monetary reward. The third was to test the absolute interpretation with a "high incentive" and a larger magnitude of differences between high and low monetary incentives than used in previous studies.

A second experiment investigated the possible effect arising from subject being shifted in the course of performance from a high to a low magnitude of incentive or vice versa.

Methods: 80 subjects aged 20-67 years, sorted cards for 20 trials. During Trials 1 to 13, subjects responded under either high or low reward ($.25 vs. $3.00), and were either aware or unaware of the alternative incentive size. Rewards were earned for a women's club.

Results: Neither interpretation (absolute vs. relative) was supported, as no differences were found. Half of each group was shifted to the alternative size and all subjects sorted for two more trials. No effects of shift were found.

Block, M. The operant conditioning of verbal behavior examined via the semantic differential. Unpublished doctoral dissertation. New York University, 1967. Dissertation Abstracts, 1968, 28(10-A), 3988-3989.

Subject: The study examined the effects of different verbal reinforcers in altering the frequency of a verbal operant.

Methods: Each of a group of 40 subjects were administered the semantic differential to identify the location in "meaning space" of a set of twelve words. The individual's location of the words in "meaning space" was used as a basis of assignment to him of words suitable as operant and reinforcer.

The 40 subjects were assigned randomly, ten to each of the four experimental setting. The fourth group in the same setting received no reinforcement.

Group I consisted of subjects whose reinforcer was a word rated by the individual as high in the evaluative dimension of the semantic differential and at or near the neutral point in the other two dimensions (power and activity).

Group II had a reinforcer rated by the individual as high in the power dimension and at or near the neutral point of the other two dimensions (evaluative and activity).

Group III had a reinforcer rated by the individual as high in the activity dimension and at or near the neutral point on the other two (evaluative and power).

Results: Findings confirmed the assumption that it was possible to alter the frequency of a verbal operant by verbal reinforcement.

A repetition of the administration of the semantic differential to all subjects followed the completion of conditioning. Results indicated no change of the location in "meaning space" of the reinforcers. Some changes in operant were found.

Boulay, M. Verbal reinforcement and Rorschach productivity. Journal of Clinical Psychology, 1969, 25(3), 310.

Subject: The study investigated whether positive verbal reinforcement after each response affects the total number of responses and the number of human content responses produced on the ten Rorschach cards.

Methods: 20 student nurses participated in the study, ten in a control group who were not reinforced and ten in the experimental group who were reinforced with "good" or "that's fine" after each response to the free association part of the Rorschach. Human content scores consisted of humans, human-like creatures and human anatomy.

Results: A "t" test performed on data obtained from experimental and control groups yielded no significant difference between groups in total number of responses emitted or number of human content responses.

Bourdon, R. D. Effects of reinforcement vs. nonreiforcement on the acquisition of a modeled verbal operant. Unpublished doctoral dissertation, The Florida State University. 1968, Dissertation Abstracts, 1968, 29 (5-A), 1418.

Subject: The study investigated the effects of verbal reinforcement and tape recorded behavior models in the acquisition of a verbal response class.

Methods: 16 subjects were used to examine the effects of: 1) reinforcement or nonreinforcement and 2) one 30 minute tape model or six 5-minute tape models, in all four combinations.

Tape recorded models consisted of an interview between the experimenter and a female "stooge" in which a large number of positive self-references were emitted by the stooge and to which the experimenter responded with positive verbal reinforcement. Verbal reinforcement consisted of paraphrasing "good," and generally supportive statements. An operant level of responding was established for each subject, followed by six treatment (conditions) sessions and extinction.

The design was a 2 (reinforcement or nonreinforcement) x 2 (30 minute tape model or six 5 minute models) factorial design.

Results: Operant analysis showed that answers to questions were essentially positive. Only those experimental groups which received direct verbal reinforcement from the experimenter gained in response rate above respective operant rates of response. Of the two model treatments only the six 5-minute model groups showed increases in response rates. Subjects responded differentially within treatment conditions.

It was concluded that variable results can be obtained by differential use of taped models along length and frequency of exposure continua and that direct reinforcement of a learner's performance of modeled behavior is an effective variable in increasing the performance of that behavior.

Bowersock, R. B. Effects of verbal, vicarious and monetary reinforcement on the verbally stated interests of three rehabilitation clients. Unpublished doctoral dissertation. The Florida State University, 1970. Dissertation Abstracts International, 1971, 31 (9-A), 4450-4451.

Subject: The study investigates the effects of verbal, vicarious and monetary reinforcement on verbally chosen interests of three rehabilitation clients. Another purpose of the study was to determine whether or not learning can take place without the subject's awareness.

Methods: Three clients--male whites--with 1-2 standard deviations below the mean on the WAIS were chosen. Verbal behavior to be modified consisted of items taken from the mechanical and agricultural scales of the Brainard Occupational Preference Inventory. Subjects were seen for 26 days. All subjects received a pretest during which a baseline rate of responding was obtained. Subjects were then given the following: 4 conditioning sessions of direct verbal reinforcement; 4 extinction sessions; 4 vicarious reinforcement sessions; 4 extinction sessions; 4 monetary reinforcement sessions; 4 extinction sessions. A post test was administered to all subjects in order to obtain a final analysis of behavior. Awareness assessment was made after every conditioning and extinction session with an objective method.

Results: Subject #1 failed to condition to any type of reinforcement. Subject #2 showed good conditioning in response to vicarious reinforcement and substantial gains in response to monetary reinforcement. Subject #3 showed substantial conditioning in response to direct verbal and monetary reinforcement. Those subjects who showed substantial gains also showed an awareness of the response-reinforcement contingencies. No conditioning took place with any subject who failed to show awareness of contingency.

Braun, S. H. Effects of schedules of direct or vicarious reinforcement and discriminative modeling cues on behavior in extinction. Unpublished doctoral dissertation. University of Missouri, Columbia, 1970.

Subject: The basic goal was to observe whether three types of reinforcements (direct reinforcement, vicarious reinforcement accompanied by persistent and relevant verbal cues, vicarious reinforcement accompanied by nonpersistent and irrelevant verbal cues) and two schedules of reinforcement (20% vicarious reinforcement or 80% variable ratio schedules) would have differential effects on resistance to extinction, rate of responding, extent of imitation and expectancy of reinforcement.

Methods: The task was a "slot machine type" in which pressing a specific button produced reinforcement either at 20% or 80% VR. During acquisition subjects either operated or observed the machine being operated. All subjects then operated the machine until he quit during the extinction phase.

Results: There was no difference in dependent scores between vicariously and directly reinforced subjects. Subjects under VR 20% were more persistent than 80% VR, irrespective of reinforcement method.

Breitmeyer, R. G. An incentive motivation approach to partial reinforcement. Dissertation Abstracts International, 1969, (29 7-B), 2628.

Subject: The general idea was to show that resistance to extinction as a function of partial or continuous reinforcement was due to the perceptions of increased value assigned to the incentive.

Methods: To test the hypothesis, 90 undergraduate males worked on a verbal learning task. Four groups of subjects were collated: 1) group one received continuous reinforcement and allowed to extinguish, 2) group two received continuous reinforcement and was allowed to go on a choice system, 3) group three received partial reinforcement and was allowed to extinguish, and 4) group four received partial reinforcement and was allowed to go on choice system. The "choice system" consisted of determining how much shock would be needed before the subjects in groups two and four chose a small or no incentive rather than face the shock (i.e. shock and reward were paired).

Results: The results showed that those subjects under the partial reinforcement condition needed a higher level of shock, before they chose the common incentive, while subjects in continuous reinforcement condition chose common incentive with lower shock levels.

Britt, D. Effects of probability of reinforcement and social stimulus consistency on imitation. Journal of Personality and Social Psychology, 1971, 18, 189-200.

Subject: The article reports the findings of three experiments investigating the relationship among reinforcement probability (competence of social stimulus source), consistency of modeling cues (level of agreement of social stimulus source), and imitation (matching the response of model). Three experiments are reported, each addressed to a different specific problem concerning the relationship among these variables and the elimination of alternative explanations for the observed results.

Methods: The design of the major study was as follows: six competence manipulations (8/6, 10/4, 12/2, 8/8, 10/6, 12/4 - numerator in each expression refers to the number of times in each block of 20 trials that the stooges disagree and the more competent stooge is correct; the denominator refers to the number of times that the two stooges agree and both are correct), two reward structures, sex, competent stooge responded first in half of the conditions and second in the other half. The task was a perceptual discrimination task.

Results: In general, the following conclusions emerged:

a) Subjects in ambiguous, competittive situations tend to imitate stooges to the degree that they are competent (i.e., to the degree that they are instrumental in procuring reinforcement).

b) The relationship between probability of reinforcement and imitation is considerably stronger when the stooges agree (consistent stimuli) than when they disagree (inconsistent stimuli), a finding that was interpreted in terms of the credibility of the consistent stimuli.

c) Imitation of consistent social stimuli is more stable than imitation of inconsistent social stimuli.

Brown, R. A. Interaction effects of social and tangible reinforcement. Journal of Experimental Child Psychology, 1971, 12(3), 289-303.

Subject: The study was concerned with the effects of tangible and social reinforcement upon the performance of kindergarten children. Tangible, social and tangible alternated with social reinforcement were chosen for study. The effects of sex and diversity of reinforcement were also investigated.

Methods: Comparison of bar press rates in three groups of children under the three reinforcement conditions was made. Comparisons were again made of the bar press rates in the three groups during a brief period of nonreinforcement.

Social reinforcement included the following sequence: "you're doing fine, m-hm, good, very nice; very good; fine; that's good; that's fine; very good."

Tangible reinforcement included a mixture of M & M's, candy corn, Good & Plentys and jelly beans. Levels of diversity in reinforcement studied were FR10 (high) and FR20 (low).

Results: During the reinforcement period, the bar press rate increased most under the conditions of tangible reinforcement where it was alternated with social reinforcement. Girls' rates increased more than the boys'.

In the nonreinforcement period the rate for the group who had previously only received tangible reinforcement dropped below the rates of the other two groups.

The author feels strongest explanation of why mixture of tangible and social reinforcement led to highest performance was that tangible reinforcement may be more potent because it has intrinsic value and the same time may represent social approval (due to pairing with intangible rewards). There was no significant difference due to density of reinforcement.

Buchwald, A. M. Effects of "right" and "wrong" on subsequent behavior: A new interpretation. Psychological Review, 1969, 76, 132-143.

Subject: This is primarily a theoretical position paper. The author states that in Thorndikian experiments subject must respond each time a stimulus is presented. Outcomes, for example, "right" or "wrong" provide him with his only source of information about correct responses. The author believes that classical results, such as the acquisition of correct responses, and asymmetry in the effects of "right" and "wrong" can be explained without using the principle of reinforcement by assuming that a) subject may recall his response without recalling its outcome, and conversely, b) a response that is not recalled can only be repeated by chance, and c) the probability of repeating a response that is recalled is independent of the outcome of that response unless the outcome is also recalled. Two experiments testing this theory are presented.

Methods: The first experiment consisted of an attempt to eliminate the effects of the ability to recall responses, or more properly the inability to recall responses, as a factor influencing performance. This was accomplished by modifying the test trial so that as each item was presented the subject was also informed of his previous response to that item. The instructions used attempted to make it clear that these prior responses may either have been correct or incorrect.

The second experiment consisted of an attempt to eliminate the inability to recall the outcomes of responses as a factor affecting performance. This was accomplished in a manner analogous to the one used to eliminate the inability to recall responses. On the Information trial in the usual (Immediate Outcome) procedure, the subject is told that a response is "right" or "wrong" immediately after it occurs. It should be remembered that the theory asserts that when an item is presented on the test trial the subject may have forgotten the outcome that followed his response. This was avoided by using a Delayed Outcome condition, in which the subject is given no information on the Information trial, but immediately after the test trial is told that his previous answer to that item was right or was wrong.

Results: Results reported were said to be consistent with the theory predictions offered.

Bullard, P. D. The effects of verbal reinforcement on "hypnotic" behavior. Unpublished doctoral dissertation. University of Washington, 1971. Dissertation Abstracts International, 1971 (November), 32(5-B), 3024.

Subject: This study investigated the effects of verbal reinforcement delivered during the induction and test suggestion phases of hypnosis, on responsiveness to hypnotic suggestions and subjective ratings of the vividness of suggested experiences. An attempt was also made to assess the role of awareness of the reinforcement contingencies on responsiveness.

Results: Subjects reinforced in the test suggestion phase alone (I-TSr) demonstrated more responsiveness than subjects reinforced in neither phase (I-TS) or in the induction phase alone (Ir-TS). Significantly more subjects receiving reinforcement in either the test suggestion or both phases (I-TSr, Ir-TSr) reported awareness than was the case when subjects were reinforced in the induction phase alone (Ir-TS). There were no significant differences between groups on the vividness measure. The results support the contention that verbal reinforcement may enhance "hypnotic" behavior.

Buys, C. J. Effects of teacher reinforcement on classroom behaviors and attitudes. Unpublished doctoral dissertation. University of Colorado, 1970.

Subject: The general aim was to study the effects of contingent social reinforcement on children's behaviors and attitudes.

Methods: This study used 18 subjects divided into two equal groups (experimental and control). Four assessment periods were used in the following sequence with measures of disruption collected for each phase: 1) baseline, 2) contingent reinforcement (verbal praise), 3) removed reinforcement, and 4) contingent reinforcement. Attitudes toward the teacher and the class were measured three times.

Results: The findings in this study were as follows: 1) Disruption decreased during the reinforcement phases and rose during nonreinforcement phases; and 2) Attitudinal patterns shadowed the reinforcement. When the reinforcement was given, attitudes became more favorable.

Carpenter, P. and Carom, R. Green Stamp therapy: Modification of delinquent behavior through food trading stamps. Proceedings, 76th Annual Convention, American Psychological Association, 1968, 3, 531-532.

Subject: Given the basic inefficiency of psychotherapy and the difficulty of implementing it with juvenile delinquents due to low verbal ability, rapport difficulty, poor motivation, etc., the authors attempted using a token economy system as a substitute to psychotherapy.

Methods: The authors decided to use S and H Green Stamps to reward attendance, punctuality, helpfulness, deferred gratification, putting toys away, cessation of play, etc., in a discussion group as well as in their regular classroom behaviors.

Results: After four sessions, most behaviors were changing in the predicted direction, except for talking out feelings.

Cernius, V. Effects of two different types of reinforcers on conceptual thinking among lower class boys: A developmental study. Proceedings, 76th Annual Convention of the American Psychological Association, 1968,(3), 617-618.

Subject: The study attempted to look at the effects of tangible or intangible rewards on a number of dependent variables (concept attainment, decision accuracy, decision time, concept-switchings). Age and grade levels were two other independent variables.

Methods: Subjects were 94 caucasian, lower class boys, from four grade levels, n = 22-24. Anxiety, defensiveness, age, mental age, and concept formation were measured. The task consisted of Kourin's Card Sorting Task (KCST) and the Multiple Concept Attainment Test (MCAT). The dependent measures were a) number of successful sortings on MCAT, b) trails needed to achieve sorting on KCST, and c) length of time needed for each setting. One half of the subjects were provided with contingent social reinforcement (right-wrong), one half of the subjects were provided with tokens which could then be cashed in for toys (intangible-tangible).

Results: Intangible (I) or tangible (T) rewards resulted in:
a) non-significant differences on concept attainment (MCAT),
b) non-significant differences on concept switching (KCST), and
c) non-significant differences in decision accuracy.
Age did not affect performance on MCAT. Reward condition did not affect decision time (MCAT). High anxious subjects performed poorer on some tasks.

Charlesworth, R. and Hartup, W. W. Positive social reinforcement in the nursery school peer group. Child Development, 1967, 38(4), 993-1002.

Subject: The study investigated reinforcement frequencies occurring in the nursery school peer group.

Methods: An observational method was devised for obtaining normative information on the amount and kinds of positive social reinforcement dispersed by preschool age children to each other in nursery school. Data were collected in four preschool classes.

Results: It was found that children in the older groups reinforced their peers at a significantly higher rate than those in the younger groups and that the amount of reinforcement given was positively related to the amount received. Reinforcement was dispensed in a higher proportion when a child was engaged in dramatic play activity than when he was engaged in other pursuits (e.g., art, music or table games). About half the reinforcements were given in response to overtures from the recipients and half spontaneously. The consequence of reinforcement was, in largest proportion, the continuation of the recipient's activity at the time of reinforcement.

Cherrington, David J., Reitz, H. J. and Scott, W. E. Effects of contingent and noncontingent reward on the relationship between satisfaction and task performance, Journal of Applied Psychology, 1971, 55, 531-536.

Subject: The authors suggest that there is no relationship between satisfaction and performance, and that by manipulating the contingencies of a reward system one should be able to create conditions under which satisfaction and performance can be, empirically, either independent, or positively related, or negatively related.

Methods: 90 subjects were paid $1.00 per hour to grade test booklets. Subjects were told that half of their group would receive an additional $1.00 per hour for outstanding performance. The monetary bonus was actually randomly distributed. Subjects were then asked to complete a self-measure of satisfaction. They then repeated the task for another one-hour session.

Results: The hypothesis that the nature and magnitude of the relationship between satisfaction and performance depend heavily upon the performance-reward contingencies was supported. Performance scores of rewarded subjects did not differ from those of nonrewarded subjects, while satisfaction scores of rewarded subjects were significantly greater than nonrewarded subjects.

Cheyne, J. A. Effects of imitation of different reinforcement combinations to a model. Journal of Experimental Child Psychology, 1971, 12 (2), 258-269.

Subject: The study was concerned with determining the effects of different feedback combinations when directed to a model on the tendency of an observer (S) to match the behavior of the peer model. Feedback combinations which the model received and the observer (S) was exposed to were right-wrong, right-blank, and blank-wrong.

Methods: 30 third grade children participated in the study. Each subject observed a model respond to 18 word pairs for which the model was told right or wrong (condition 1), right or nothing (condition 2), or nothing or wrong (condition 3). Subject then responded to the same 18 word pairs without feedback. The subject was instructed to respond to the words again, yet this time, as the model had.

Results: The consequences of observation were found to influence both performance and recall of modeled behavior. In comparison with neutral outcomes, positive outcomes to the model were found to enhance the subsequent performance by the observer, whereas negative outcomes to the model were found to suppress observe: 's performance of the model's behavior. Yet the positive and negative outcomes both facilitated recall of the model's verbal behavior. There appeared to be a "halo effect" of positive outcomes, ie., both negative and neutral modeled items were repeated more frequently if the model received at least some positive outcomes.

Cialdini, R. B. The effects of attitudinal verbal reinforcement upon the attitudes of the verbal reinforcer. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill, 1970. Dissertation Abstracts International, 1971, 31 (11-A), 6156.

Subject: The study investigated how subjects who reinforced certain attitudinal items in others where affected themselves by the reinforcement on those attitudinal items.

Methods: Subjects reinforced, with the word "good," the opinions of "passers-by" concerning the expansion of federal power; half of the subjects reinforced pro expansion responses and half reinforced con expansion responses. The "passers-by" were experimental cohorts and allowed subjects to experience either successful or unsuccessful verbal conditioning in a way that produced either high or low public commitment to the reinforced position in the conditions.

Results: An advocacy effect was found such that subjects reinforcing (and thus advocating) pro expansion responses subsequently became more pro than subjects reinforcing con expansion responses. This effect was found to be specific to those interview items on which overt advocacy occurred.

These results were interpreted according to Bem's (1965) self-attribution theory as demonstrating that the self-perception of overt advocacy behavior is a sufficient condition for the production of attitudinal shifts in the direction of the advocated position. It was also concluded that the intention or set to advocate by itself is not a sufficient condition for such shifts.

Cialdini, R. B. and Insko, C. A. Attitudinal verbal reinforcement as a function of informational consistency: A further test of the two-factor theory. Journal of Personality and Social Psychology, 1969, 12, 342-350.

Subject: According to the two-factor theory (see Insko and Cialdini, 1969) attitudinal verbal reinforcement is a function of information and rapport. "Good" has an attitudinal effect because it conveys information about the interviewer's attitude and creates positive rapport. Since both factors are necessary in order for influence to occur, if one factor is held constant and the other varied there should be a variation in the attitudinal effect.

In the present study there was a manipulation of the consistency-inconsistency of the direction of reinforcement and the affiliation of the experimenter. If informational cues are important, verbal reinforcement should be significantly greater in the consistent condition than in the inconsistent condition.

Methods: The interview question dealt with the relative merit of clinical and experimental psychology. Pro-clinical or pro-experimental attitudinal responses were reinforced with "good" by an experimenter who identified himself as either a clinical psychologist or as an experimental psychologist. By identifying the experimenter as a graduate student in either clinical or experimental psychology it was possible to manipulate the consistency of the direction of reinforcement (clinical or experimental) and the affiliation of the experimenter.

Two independent variables were thus manipulated as follows: direction of reinforcement (clinical vs. experimental) and consistency of information (consistent affiliation and reinforcement vs. inconsistent affiliation and reinforcement).

Results: Only in the condition in which the direction of reinforcement was consistent with the affiliation of the experimenter did influence occur. Since this manipulation of information consistency did effect awareness, but not rapport or other variables, the results were taken as supporting the hypothesis that conveying of information is one important factor in attitudinal verbal reinforcement. The further finding that experimental subjects who received a reinforcement liked the experimenter better than control subjects who did not receive a reinforcement was taken as indicating that the heightening of rapport is also an important factor in attitudinal verbal reinforcement. No support for a hedonistic interpretation was found, nor was there any evidence for conditioning without awareness.

Clark, M. D. The effects of counselor supervisors' verbal reinforcements upon counselor trainees' verbal behavior. Unpublished doctoral dissertation. Arizona State University, 1969. Dissertation Abstracts International, 1970, 30(9-A), 3718.

Subject: The purpose of the study was to investigate the effects of counselor supervisors' verbal reinforcements upon counselor trainees' verbal behavior. The class of verbal responses to be reinforced was reflection-of-feeling responses.

Methods: Graduate students enrolled in a Counseling Practicum at Arizona State University were reinforced by a supervisor by way of a one-way radio transmitter and receiver each time a desired response was emitted by the counselor trainee during counseling sessions. At the end of the treatment period, both treatment and control groups were presented with a video tape of thirty client statements to which they were asked to respond as they would under actual counseling conditions. This was used to indicate the frequency of reflection of feeling responses made to controlled client statements.

Results: Findings indicated that counselor verbal behaviors continually reinforced by a supervisor increase in frequency. The results imply that when reward is consistently given immediately following the counselor's emission of the desired behaviors, the supervisor will modify the trainee's behavior in the desired direction. It was shown that a verbal reinforcement model could be useful in counselor supervision and counseling effectiveness.

Clark, C. A. and Walberg, H. J. The influence of massive rewards on reading achievement in potential urban school dropouts. American Educational Research Journal, 1968, 5 (3), 305-310.

Subject and Methods: Subjects were 110 children (10-13 years old) from the inner-city (considered potential dropouts) in an after-school remedial program. Students were assigned randomly to nine classes (n = 10 to 15).

Teachers were asked to verbally reinforce students who in turn kept track of the reinforcement by tallying the number of reinforcements they received in a given class. After six sessions, five (randomly picked) teachers were asked to double or triple the level of positive verbal reinforcement while four were told to "keep up the good work." A standard reading test formed the dependent measure.

Results: 1) The massive reinforcement group performed better than controls ($p < .01$). 2) With I.Q. co-varied out it was again showed that the experimental group did better than the controls ($p < .01$) on the reading list.

Cohen, Stephen L. and Jaffee, Cabot L. The effects of varying the number of conditioned leaders on group problem solving. Psychonomic Science, 1970, 21, 95-96.

Subject: This research explored the effect of increasing the number of leaders in a group-interaction situation, i.e., more than one person in a group was reinforced for verbal output.

Methods: Thirty groups of four students each were divided into three treatments as follows: 1) one subject reinforced in each group (10 groups), 2) two subjects reinforced in each group (10 groups), and 3) all four subjects reinforced in each group (10 groups). Reinforcement was administered by a signal box containing a red and green light. The subjects were instructed that the experimenter was interested in assessing group behavior and interaction in discussion problems.

Results: Seventy percent of the two-reinforced groups could not reach a solution to the discussion problem, while only twenty percent of the one-reinforced groups and ten percent of the four-reinforced groups were unable to solve the problem. The authors suggest that the probable cause of the poor performance by the two-reinforced groups was due to a greater number of conflict statements generated by the initial high talker or leader in his interaction with other group members.

Conger, J. C. The modification of therapist behavior by client use of social reinforcement. Unpublished doctoral dissertation. University of Illinois, 1968. Dissertation Abstracts International, 1969, 30(1-B), 377.

Subject: The purpose of the study was to demonstrate experimentally the client's influence on the therapist or interviewer.

Methods: Two confederates, one male and one female, role played clients who endeavored to influence the therapist's verbal behavior by use of social reinforcement such as smiling, agreeing, etc. The confederates role played clients who were somewhat depressed, lacking in ambition and direction and, in general, unhappy. The target response class for modification was past and present verb forms. A baseline measure of nine minutes was followed by an acquisition period of eighteen minutes. The experimental design consisted of targets (past and present verb forms) x clients. A ratio of the averages was determined in both the baseline and operant phases and the difference between the ratios was used as the dependent measure in the analyses.

Results: A 2 x 2 analysis of variance yielded no significant conditioning effects, although there was a trend at the .10 level. Inspection of the data showed that the group who had seen the female client had quite heterogeneous variances, while variances for the groups who had seen the male client were quite similar. It was thought the heterogeneity of variance might have obscured a main effect.

Conger, J. C. The treatment of Encopresis by the management of social consequences. Behavior Therapy, 1970, 1, 386-390.

Subject: This article was a report on a case study demonstrating one great virtue of behavior therapy, i.e., mothers can do in-house therapy.

Methods: The subject was a nine year old boy suffering from soiling for the last four years. He soiled himself at least once and as often as four times a day. His mother would then wash and change him. He hated to be soiled.

Therapy recommended that the subject's mother not change or wash the subject any longer.

Results: The subject stopped soiling himself immediately.

Cook, H. Verbal satiation of a positive and negative verbal reinforcer in children. Journal of Verbal Learning and Verbal Behavior, 1968, 7, 1082-1087.

Subject: The general purpose of the study was to assess the verbal satiation process in children. It was hypothesized that a) the continued repetition of a positive or negative verbal reinforcer would decrease its effectiveness as a reinforcer; b) the effectiveness of a positive or negative reinforcer would be altered when the repeated word was either positive or negative and c) reinforcer effectiveness would increase following ten repetitions, and diminish following 20, 30, 40 and 80 repetitions.

Methods: Subjects were 240 third grade students. A free operant task which involved dropping marbles into either of two holes was used to determine a baseline for each subject. The satiation phase followed, each subject continually repeated aloud "good" or "bad." In the semantic differential (S.D.) rating phase, subject rated the repeated word (good or bad) and "candy." Conditioning followed the experimenter verbally reinforcing subject by saying either "good" or "bad" to responses subject made and to subject's previously determined low or high preference side. Subsequent to conditioning, an extinction phase, identical to the baseline task was administered. The design was a 2 (satiater word: good or bad) x 2 (reinforcer: good or bad) x 6 (duration of repetition: number of repetitions 0, 10, 20, 30, 40, or 80) x 2 (S.D. rating: before or after conditioning). Dependent measures were categorized under a) task-performance and b) S.D. measure.

Results: Hypotheses a and b were supported. Hypothesis c was only partially supported.

The effectiveness of a positive and a negative verbal reinforcer is altered by the continued repetition of that reinforcer. Furthermore, the data imply that the satiation effect, as measured by reinforcer effectiveness, is not dependent on the semantic characteristics of the word. The effectiveness of positive or negative reinforcers were altered when the satiated word was either positive or negative.

Cook, H. Effectiveness of a verbal reinforcer subsequent to satiation in preschool children. Psychonomic Science, 1970, 19 (6), 327-329.

Subject: It was hypothesized that the continuous repetition of the word "good" should diminish its reinforcing effectiveness in the performance of an operant task, and the larger the duration of continuous repetition, the greater the decrement.

Methods: Subjects were 64 preschool children from four nursey schools. Subjects were assigned randomly to treatment groups in a 2 (satiator word: good or plant) x 2 (reinforcing word: good or plant) x 5 (duration of repetition 0, 5, 10, 15, or 20 seconds) factorial design. During a baseline phase, subjects in a free-operant task dropped marbles into either of two holes, and a low preference side was determined for each subject. Each subject then continually repeated aloud "good" or "plant" for 20, 15, 10, 5, or 0 seconds. In the conditioning phase, each subject was verbally reinforced by experimenter (good or plant) for each marble response made to his low preference side.

Results: A significant main effect for duration of repetition and the significant trend analysis of linearity in predicted shift across the duration of repetition supported the notion that continued repetition of a word decreases its reinforcing properties. The performance shift curve for groups that had good as the satiator and reinforcer displayed a maximum shift of 53% at 5 seconds of repetition, implying maximum reinforcer effectiveness and a minimum of satiation effect. Groups for which "plant" was the satiator and reinforcer displayed a maximum satiation and minimum reinforcer effectiveness at the 5 seconds level with a shift of-6%, signifying an extreme decrease in reinforcer effectiveness.

Costello, H. J. Social reinforcers as functions of social competence and reinforcement conditions. Unpublished doctoral dissertation. Illinois Institute of Technology, 1967. Dissertation Abstracts, 1968, 28(10-B), 4293.

Subject: The study examined the effects of social competence and experimenter conditions on the effectiveness of social reinforcement.

Methods: 48 four year old Negro children served as subjects. Social competence was measured by means of a scale developed in a similar population. There were two levels of competence, familiarity and visibility. Experimenter conditions included familiar versus unfamiliar experimenter and visible versus screened experimenter. The task involved a simple marble game for which the experimenter gave verbally approving comments, with affective intonation, at thirty second intervals.

Results: No significant effect was found between child's competence and social reinforcer effectiveness as measured by time spent playing the game.

The author contends that the data tend to support a life-history position which would predict that the less experience a child has with social reinforcers the greater his need to maintain a low level of reinforcement in a new situation, i.e., behave in a social reinforcement situation in a manner consistent with past experience.

Regarding experimenter conditions, familiarity had less effect on subjects' responses to social reinforcers than did visibility of the experimenter. The significance of a visible experimenter, in terms of children's reponses to his reinforcing statements, regardless of their level of social competence, is considered the major contribution of the study.

Crowley, J. J. The effects of varied types and schedules of social reinforcement on male and female temporal persistence. Unpublished doctoral dissertation. Temple University, 1968. Dissertation Abstracts, 1968, 29 (4-B), 1505.

Subject: The study investigated the relative effectiveness of three continuous schedules (praise, blame, and blank, or nonreinforcement) and three partial schedules (praise-blank, praise-blame, and blame-blank) upon temporal persistence on an insoluble task.

Methods: 6 males and 6 females (N = 72 introductory psychology students) were randomly assigned to each of the six experimental conditions. The schedules were applied to subjects' performance on a series of 49 problems (a random mixture of Raven matrices, analogies, opposite-word, sentence completion and pencil-line tasks). Supposedly the examiner evaluated the accuracy and speed of performance on each task by "good," "no good," or silence. Actually his evaluations were predetermined. Items 17 and 48 were insoluble pencil-line tasks. Subjects were instructed either to complete the task correctly or desist. The temporal persistence on these tasks (dependent variable) was measured by dividing persistence on item 48 by persistence on item 17. A post experimental questionnaire was administered.

Results: Expected findings were: 1) Praise-Blank subjects persisted longer than continuous Praise subjects, 2) Praise-Blame subjects persisted longer than Praise-Blank subjects, 3) there was greater variability under the Blame-Blank subjects' condition and 4) males and females did not differ significantly in their temporal persistence.

Unexpected findings: 1) far greater persistence by all partial subjects and 2) the failure of continuous conditions to differ significantly among themselves.

Cummings, L. L., Schwab, D. P. and Rosen, M. Performance and knowledge of results as determinants of goal setting. Journal of Applied Psychology, 1971, 55, 526-530.

Subject: This study investigated the impact of past performance and several knowledge of results (KOR) conditions on the level of goals set. The higher the level of previous performance, the higher the level of goals set for future performance; and when the effects of previous performance are accounted for and the greater the amount and accuracy of KOR, it was hypothesized that a higher level of goals would be set.

Methods: Simple addition task for 80 subjects who were given one of four conditions of KOR:

KOR_C - number of sheets correctly done
KOR_I - number of sheets incorrectly done
KOR_N - no KOR
KOR_{EL} - erroneously low KOR

Results: Previous performance has a significant impact on goal setting. Performance and KOR accounted for half of the goal variance. When performance effects were accounted for, KOR also influences goals significantly. Correct KOR increased goal level significantly above that generated by no KOR, while incomplete KOR increased goal level insignificantly, and erroneously low KOR decreased performance below the level associated with no KOR.

D'Ambrosio, J. A. The effects of differential reinforcers and social class on performance. Unpublished doctoral dissertation. Indiana University, 1969. Dissertation Abstracts International, 1969, 30(3-B), 1346-1347.

Subject: The purpose of this study was to empirically determine the effects of verbal-positive, non-verbal positive, verbal-negative and non-verbal negative reinforcement on a discrimination task with four and one-half to six and one-half year old middle and lower class Caucasian children. There were 15 children in each group; a total of 120 children participated.

Methods: Subjects were from 4 1/2 to 6 1/2 years old of lower and middle class. They were assigned to groups receiving one type of reinforcement mentioned above. The task was a marble-dropping task.

Results: It was found that verbal-negative reinforcement produced the greatest number of correct responses for both the lower and middle class children. It was also found that negative reinforcement produced a significantly slower rate of response than positive reinforcement. There was no difference between the verbal and non-verbal positive groups for either socioeconomic class.

It was concluded that it is clear that the motivation to avoid disapproval is quite strong for both lower and middle class children.

The Fort Ord Merit-Reward System. William F. Datel (from unpublished technical reports)

Fort Ord, in 1969, began contingency management program in Army basic combat training, which has now been extended to other areas and services (Coast Guard Academy, USN training).

Reviews behaviorism, operant conditioning, contingency management--briefly.

"...it was assumed that if the consequences ensuing from the recruit's behavior could be formally programmed and systematically applied, the recruit would better learn and perform those behaviors required of him and would be more satisfied as a result of experiencing that what he accomplishes counts" (p. 4).

Initially identified consequences with incentive value (rejected avoidance conditioning).

Strongest incentives had to do with time-off privileges and promotion: adopted for MRS.

Cash awards had high ratings but regarded as unfeasible.

*Mementos or ceremonies recognizing individual achievements were less powerful motivators.

*Rewards allocated on group basis had lesser incentive priority than those allocated on an individual basis.

(Based on survey of basic trainees near end of first 8 weeks training.)

Uses merits based on performance as secondary reinforcers (token economy).

Problem in defining expected performance; translation into behaviors of "skilled in fundamentals of soldiery"...

Determined: a) what behaviors to reinforce, b) how much reinforcement to allocate to each behavior and c) performance criteria, through judgments of commanders and drill sergeants and trial/error construction of reinforcement schedules.

Made some privileges "more expensive" than others; something for everyone but more for better performers.

Also dealt with problems of:

a) credible bookkeeping/accounting procedure
b) communicating rules of system to participants
c) orienting and training operators to execute system
d) developing methods to monitor quality control...

(a) [above]...began with individual punch-card with color-coded merit fields; at week's end card merit totals transferred to master platoon log; at "cash-in" time (weekly) subject decided to spend merits on a privilege or save them for later higher-order privilege. Log also used to tally total merits for training cycle and top 35% of merit-earners were promoted to F-2 rank.

But this was unwieldy for instructors and card-punching didn't "conform to drill sergeant's image"--so they used a platoon roster method where each subject's merit earnings

by activity performed, are entered and posted daily on platoon bulletin board.--worked better, more natural! note that this is public reinforcement.

(b) Post regulation directed implementing of MRS and gave guidance to unit commanders. "Drill Sergeant's Manual for the MRS," and "Soldier Handbook for MRS"
Set forth rationale, specifies activities, gives performance criteria, defines privileges, lists merits needed for each privilege...

(c) MRS shifts locus of power from personal reward/punishment decisions of the drill sergeant and embodies power in formalized set of rules--but drill sergeant is the key to success; must no longer be father-surrogate, but good interpreter of system with given motivational elements.
better trainee--drill sergeant relationship; changes drill sergeant funtion to coach and technician.
(reminiscent of Buckeye-leaves--another C.M. reward system!)

(d) Weekly "Merit-Reward Status Report" filed with HQ includes average number of merits earned by platoon and activity and number and kind of rewards taken, plus section of company commander's open-ended observations--used to detect problems in operation.

Morale assessed each two week intervals by (anonymous) Multiple Affect Adjective Check List (mark which of 132 words describe "mood state" during past week).
company mean scores, and base trend over time.

At four week intervals subjects complete "Company Evaluation Inventory" assessing three areas--fidelity of MRS administration, living and training conditions, attitude toward USA
Brigade/battalion HQ get qualitative and quantitative results.

Another quality control/communication vehicle, now in operation in all USATC commands is the "Company Trainee Council"--meet biweekly comprised of company commander, first sergeant, senior drill sergeant, and two trainee representatives (selected by peers) from each platoon--very effective....
Also monitor traditional criteria (at least by company)
changeable and unchangeable attrition
Basic Rifle Markmanship, Physical Combat Proficiency Test, and comprehensive end-of-cycle final exam--performance indicators.
company's average scores, percentage trainees failing, percentage showing up for tests.

Synthesize measures in Unit Analysis Report--covers the four areas--
Morale, Administration, Attrition, Performance
Regarded by commanders as comprehensive managerial tool.

The Fort Ord Merit-Reward System--Continued

Simple statement of MRS effects:

1) Since 1970 MAACL scores have gained 8 points--implies "dramatic rise" and trainees like the MRS.
2) Gradual upward climb on CEI item measuring re-enlistment intention. (probably not a pure MRS effect)
3) Attrition rate about 4 1/2 percent but no pre-MRS rate for comparison.
4) Performance (BRM and PCPT) "have held up well" despite cut-back to five day training week.
5) Drill sergeant opinion on efficacy of MRS is "strongly divided."--depends on experience (those of greater than 18 months experience as drill sergeants favored MRS 5/3; those less than 18 months, opposed it 5/1).

MRS effects contaminated by simultaneous innovations at Fort Ord, e.g., Accelerated Training Program, Experimental Volunteer Army Training Program, etc.

Datel, W. E. and Legters, L. J. The psychology of the Army recruit. Paper read at the American Medical Association Convention, Chicago, 1970.

Subject: In the introduction the authors argue that there is no point and it is destroying to harass recruits during basic training. They argue that it is best to develop systems to change the reinforcement contingencies that impinge on trainees. The aim was to develop a behavior engineering system similar to a token economy to:

1) reduce the psychological cost of basic training,
2) close the gap between a general culture which treasures individualism and a military subculture which values conformity, and
3) encourage drill sergeants to instruct, not re-train.

Methods:

1) 1000 trainees rated 200 reinforcers as to frequency and affect.
2) Their results showed few positive and a majority of negative reinforcers.
3) Lack of privacy, training duties etc., were not perceived as aversive (only neutral).
4) Training methods and organizational controls were perceived aversively.
5) Being given time off was the highest ranked incentive.

They then set up a merit-reward system (token economy) in which soldiers were given a merit card which was punched to allocate merit points for meritable behaviors.

Results: 1) Although they do not produce any data it is argued that the program was a success (i.e., trainee on the system performed better, had better attitudes and evaluated basic training better- better that what?). There is no formal control; only their own previous experience. 2) The problems they met were hinged around the new behaviors needed of drill sergeants (i.e., monitor, evaluate and record) and also resistance by administrators. 3) The program also tended to force commanders to increase training goals clarity.

Datel, William E. and Legters, L. J. Reinforcement measurement in a social system. The Journal of Biological Psychology, XII, 1, 1971, 33-38.

Subject: This study sought to identify and quantify the existent reinforcers in Army basic combat training.

Methods: Obtained ratings (1-7 scale) of events' motivational value and the events' frequency of occurrence.

Results: Personal autonomy, possibility of contact with family members and friends, and temporary respite from training received the highest incentive ratings. Individual recognition, promotion, engraved mementos of achievement, and cash rewards also received high incentive ratings but not as high as those mentioned earlier. Events having to do with group recognition or group exercise of a priviledge were weaker incentives.

Davison, D. C. Some demographic and attitudinal concomitants of the perceived reward value of classroom reinforcement: An application of Newcomb's balance theory. Unpublished doctoral dissertation. University of Illinois, 1967. Dissertation Abstracts, 1968, 28(8-A), 3016-3017.

Subject: The study examined the significance students attached to certain acts and behaviors of teachers which are intended to reinforce student behavior in the classroom. This was studied in relation to the students' attitudes toward the teacher dispensing the reinforcement, in relation to how they perceived their friends would regard the reinforcement, and in relation to their sex and social class backgrounds.

Methods: 256 eighth grade boys and girls responded to a questionnaire consisting of acts of behavior engaged in by teachers which are intended to reinforce student behavior in the classroom. The items themselves were composed by 77 eighth graders not included in the sample of 256. Each subject was asked to respond to each statement by indicating what his feeling would be if certain teachers actually engaged in those behaviors. He was asked to indicate his response on a five point scale.

Subjects responded under two teacher referent conditions, separated by one week. In one teacher condition, they were instructed to respond to the questionnaire as if the teacher were a " liked " teacher and in the second as if the teacher were a "disliked" teacher.

They also completed a questionnaire indicating how they felt their friends would regard the reinforcing acts of the same two teachers engaged in the behaviors with respect to them.

Results: 1) Subjects attached more significance to both positive and negative reinforcement dispensed by liked teachers than by disliked teachers. 2) There was a positive relationship between the significance students attached to both positive and negative reinforcement and the significance they perceived that their friends would attach to it. 3) Subjects from the upper social class attached less significance to the positive reinforcement than did subjects from the middle social class. Lower social class subjects were intermediate between middle and upper social class subjects in the significance they attached to the positive reinforcement and did not differ significantly from either of them. There were no social class differences in the significance attached to negative reinforcement. 4) Boys attached more significance to the positive reinforcement than did girls. There was no sex difference in the significance attached to negative reinforcement. 5) Subjects from the lower social class attached more value to material reinforcers than did subjects from the upper social class. Middle social class subjects were intermediate between upper and lower social class subjects in the value they attached to the material reinforcers and did not differ significantly from either of them.

Deci, E. L. Effects of externally mediated rewards on intrinsic motivation. Journal of Personality and Social Psychology, 1971, 18, 105-115.

Subject: This research investigated the effects of external rewards on intrinsic motivation.

Methods: 24 undergraduate subjects (12 experimental and 12 control subjects) participated in three one-hour sessions in which they were instructed to work on a puzzle Experimental and control subjects worked on the puzzle in the first session, but in the second session experimental subjects were paid one dollar for each solution while controls were not. Both groups worked without pay in the third session. The above experiment was replicated using verbal reinforcement and positive feedback in Stage 2.

Results: The introduction of external rewards in the second session (money) for experimental subjects resulted in an increase in motivation as measured by time spent solving the puzzle. In the third session with rewards removed, motivation dropped to a level considerable lower than during the first session.

When verbal reinforcement and positive feedback were used as external rewards, the subjects' intrinsic motivation increased relative to nonrewarded subjects. Money works to buy off the subjects' intrinsic motivation and cause him to reevaluate the task, while social reinforcement does not.

Deci, Edward L. Intrinsic motivation, extrinsic reinforcement, and inequity. Journal of Personality and Social Psychology, 1972, 22, 113-120.

Subject: This study investigated the effects of money and verbal reinforcement on intrinsic motivation and also investigated the effect of inequity of reward by overpaying subjects.

Methods: Subjects were assigned to one of six conditions:

1. not rewarded
2. rewarded with money after first session
3. rewarded with money after second session
4. rewarded with verbal reinforcement
5. rewarded with money and verbal praise after first session
6. rewarded with money and verbal praise after second session

Results: Verbal reinforcement increased intrinsic motivation for only male subjects. Overpayments of money did lead to increased performance in accordance to equity theory predictions.

Delahanty, D. Three aspects of nonverbal communication in the interview, Personnel Journal, 1970 (Sept.), Vol. 49 (9), 757-759.

Subject: This article is concerned with three relevant aspects of nonverbal communication that play such a major role that they reinforce, contradict, or neutralize the spoken word in the interview.

Conclusions:

1. Gestures--The gesture, or posture, facial expression, and other bodily movements, are the most obvious of the nonverbal aspects of communication.
2. Space--Four distance zones were identified: intimate (up to 18 inches), personal (1 1/2 to 4 feet), social (4 to 12 feet), and public (beyond 12 feet). Greater openness and honesty are associated with personal distance while more formal interaction occurs in the social range.
3. Time--The time allotted to an interview and the delay of an interview may increase the waiting person's anxiety.

Such nonverbal dimensions as gestures, space, and time form part of the message that is communicated in the interview.

DiJames, D. D. The effect of three classes of reinforcement in verbal operant conditioning. Unpublished doctoral dissertation. University of Southern California, 1970. Dissertation Abstracts International, 1970, 31 (2-A), 641.

Subject: The main purposes of the study were the following:

a) to determine whether verbal operant conditioning techniques would lead to an increased acquisition of verbalizations connotating anxiety.

b) whether a differential rate of acquisition would result under three different classes of reinforcement.

c) whether generalizations of the conditioned responses connoting anxiety would transfer to "core anxiety" and be manifest in an operational measure of feeling in Children's Manifest Anxiety Scale.

As a supplementary interest, the findings were examined to determine whether a differential rate of conditioning (acquisition) between "lower" and "higher" IQ groups occurred.

Methods: 40 subjects were randomly assigned among four groups of ten subjects each. Group I was reinforced by "approval;" group II by "reflection," group III by "interpretation" and group IV (control) was not reinforced.

Results: It was found that the application of verbal reinforcing stimuli was significantly related to the increasing frequency of emitted verbal responses which have come to acquire a negative connotation in this culture. It was also found that different types of verbal reinforcement have a differential reinforcing influence upon the rate of acquisitions of verbalizations connotating anxiety. There was no significant relationship between the verbal operant conditioning of verbalizations connotating anxiety and the level of "core anxiety." No significant differences occurred between "lower" and "higher" IQ subjects in acquisition rate of the verbal operant criterion response.

Dustin, R. Trained clients as reinforcers of counselor behavior. Journal of Consulting and Clinical Psychology, 1971, 37(3), 351-354.

Subject and Methods: This is an exceedingly simple study. Confederates were coached to act as counseling clients. They were trained to verbally reinforce statements emitted by the counselor, which indicated "understanding." Dustin also trained the clients to be able to discriminate understanding from nonunderstanding statements.

Results: Counselors who were reinforced for emitting "understanding" statements increased the frequency with which they used them.

Eaglin, R. G. An experimental study of the effect of positive, negative, and no verbal reinforcers on assigned leaders in eight-member decision making groups. Dissertation Abstracts International, Dec., 1970, Order no. 70-23, 824.

Subject: This research studied the behaviors of assigned leaders who received differential reinforcers while participating in the solving of a problem by group consensus.

Methods: 112 males and 112 female subjects were placed in 28 groups of eight members each. Three subjects from each of the 21 experimental groups were randomly chosen as leaders. Non leaders were instructed to treat each leader differently: one leader received positive verbal reinforcers; one received negative verbal reinforcers; or no specific reinforcers.

Results: A significant difference was found between no specific reinforcement and all other conditions.

Eisenberger, R. Is there a deprivation-satiation function for social approval? Psychological Bulletin, 1970, 74, 255-275.

Subject: This is a review article which is concerned with the replicability and interpretation of Gerwirtz-Baer (1958) findings that the reinforcement efficacy of social approval is decreased by its prior presentation and increased by its prior withholding. A large number of studies have successfully replicated this finding using choice measures of instrumental performance. Studies using rate or duration measures however, have yielded weak and inconsistent effects. The article points out that these studies have been characterized by methodological deficiencies which make the interpretation of their results highly equivocal. Consequently it is not yet clear what effect the deprivation-satiation operations have upon rate and duration of approval-reinforced performance. A large number of additional studies are reviewed which further suggest that changes in approval-contingent performance resulting from the deprivation-satiation phenomenon can not be attributed to changes in general sensory deprivation, general drive level, or cue properties of approval comments (non-contingent approval prior to test situation may lead to expectation that approval will continue to be administered on an unsystematic bases).

The review concludes that the withholding and presentation of approval alters the motivation for obtaining approval.

Elliott, T. N. The effect of stealing behavior of reinforced statements of honesty. Unpublished doctoral dissertation. University of Mississippi, 1971. Dissertation Abstracts International, 1971, 32(1-B), 556.

Subject: The study investigated the effect on stealing behavior of reinforcement for the reading of statements extolling honesty.

Methods: A same-subjects design was used in which the subjects were five adolescent males. They were given repeated opportunities to steal cigarettes while working on a marble-sorting task. A baseline condition in which subjects were reinforced for reading statements unrelated to honesty was followed by the treatment condition in which subjects were reinforced for reading statements extolling honesty. The baseline condition was then reinstated and was followed by a return to the honesty training.

Results: No reliable control of stealing was demonstrated.

Endo, G. T. Social drive or arousal. A test of two theories of social isolation. Journal of Experimental Child Psychology, 1968, 6, 61-74.

Subject: The purpose of the study was to further explore the social drive versus arousal hypothesis of the increased effectiveness of social reinforcers following isolation on a conditioning task. The specific hypotheses tested were as follows:
a) If isolation produces a social drive, then following isolation there will be an increase in the effectiveness of social reinforcers for isolated subjects but not for nonisolated subjects. Further, there will be no change in the reinforcer efficacy of nonsocial reinforcers for isolated subjects as compared to nonisolated subjects.
b) If isolation produces arousal, then following isolation, isolated subjects will learn faster than nonisolated subjects regardless of the reinforcers.

The study was also designed specifically to examine the role of the social class (middle class and lower class), along with experimenter differences, and sex of subjects as variables with respect to the two theories in question.

Methods: 96 children, an even number from both the middle and lower classes, were used as subjects in a 2 (Reinforcers: verbal praise versus nonverbal light or buzzer) x 2 (Social Class: middle and low) x 2 (Experimenters) x 2 (Sex) x 2 [Isolation (12 minutes) or No Isolation]. The task was a two-choice probability learning game which consisted of one of two decks of cards, each deck having sixty cards.

Results: The Social Drive Model predicted the behavior of middle class subjects (increased effectiveness of social reinforcers), but neither the Social Drive Model nor the Arousal Hypothesis were accurate in their predictions of the behavior of lower class subjects.

Evans, J. R. Relationships of psychological differentiation, emotional distance from reinforcing agent, emotional arousal, and responsiveness to social reinforcement. Unpublished doctoral dissertation. George Peabody College for Teachers, 1969. Dissertation Abstracts International, 1970, 31(1-B), 411-412.

Subject: The study investigated the possible relationships between responsiveness to positive social reinforcement (RSR) and the personality variables of psychological differentiation, emotional distance from the reinforcing agent, and emotional arousal.

Methods: Responsiveness to social reinforcement (RSR) was defined as the amount of time subjects willingly spent at a boring marble-dropping task for which he was given attention and verbal approval according to a fixed interval reinforcement schedule. Psychological differentiation, emotional distance and emotional arousal were defined by scores on the Children's Embedded Figures Test (CEFT). 184 subjects (ten year old boys) were randomly assigned to two groups. The data for each group was analyzed separately in order to provide a "quasi-replication" of the study. Correlation ratios and product moment coefficients of correlation were computed between all variables, and multiple linear regression procedures were used to test for the interaction of intelligence with all significant relationships obtained, and to calculate multiple regression coefficients for the prediction of responsiveness to social reinforcement. The reinforcing agent in Group I was male; Group II, female.

Results: No significant correlation ratios were found. A significant correlation of -.21 was found for Group I between RSR and emotional arousal of subject upon initial contact with the experimenter. A similar correlation (.21) was obtained for Group I between CEFT and drop in PSI (Palmer Sweat Index) during the marble-dropping task. In Group I only the initial PSI measure of arousal contributed to the prediction of RSR in a multiple regression equation. No significant correlations were found for Group II.

Ferreira, J. R. Promoting attentive behavior through application of positive reinforcement procedures. Unpublished doctoral dissertation. Stanford University, 1969. Dissertation Abstracts International, 1970, 30(8-A), 3275-3276.

Subject: The study investigated the effects of positive reinforcement for attentive behavior upon students who evidenced low rates of such behavior.

Methods: Experimental subjects, identified as low in attentive behavior, were reinforced in the form of checkmarks for attentive behavior (exchangeable for primary reinforcers) dispensed by the teacher on a fixed interval-ratio basis (twenty minute intervals, morning sessions, seven week period). Active control teachers were encouraged to apply a wide variety of techniques in order to increase attentive behavior among the subjects identified in their classrooms. There was also a nonactive control teacher group.

Results: Experimental subjects significantly increased attentive behavior over controls at the end of the experimental period, but not at mid-study and follow-up periods.

Teachers rated the experimental subjects significantly higher in attentive behavior and significantly lower in distractibility at the mid-point and end of the experiment, but not at the follow-up period.

Field, T. W., Simpkins, W. S., Browne, R. K., and Rich, P. Identifying patterns of teacher behavior from student evaluations. Journal of Applied Psychology, 1971, 55, 466-469.

Subject: Multiple discriminant analysis was applied to student perceptions of teachers with the purpose of (a) identifying patterns of teaching behavior by which students are able to differentiate most clearly among a group of teachers, and (b) obtaining the relative standings of teachers on these patterns.

Methods: Questionnaire of 18 items was administered to 57 Ss who were taking a course taught by five different teachers.

Results: Discriminant Function 1. (50.7% variance) described a teacher-student rapport pattern (rapport, interaction, feedback).

Discriminant Function 2. (24.3% variance) described a skillful and stimulating instructional technique.

Discriminant Function 3. (15.7% variance) described a feedback dimension.

Fielding, V. J. Effects of social reinforcement on children's rate of verbalization. Unpublished doctoral dissertation. University of Missouri, 1968. Dissertation Abstracts, 1969, 29(8-A), 2517-2518.

Subject: The purpose of the study was to investigate the effects of social reinforcement on children's verbal responses to twelve stimulus pictures presented over four sessions.

Methods: 72 subjects were selected from grades 2, 4 and 6 matched on the variables of grade level, sex and verbal ability, and then randomly assigned to one of three groups. Each subject was asked to respond verbally to a set of twelve stimulus pictures presented in a series of three pictures over four sessions. Responses to the first picture served as a base rate measure. Treatment for the experimental groups began with the second stimulus picture.

Treatment conditions were as follows: 1) Fixed Interval Group - Subjects received reinforcement ("good" or "fine" or "all right" or "mm-hmm") each fifteen second interval; 2) Ratio Interval Group - Subjects received reinforcement after ten seconds of accumulated verbalization; and 3) Control Group - Subjects were not reinforced.

A gain score measure of change in response rate between the base period and the treatment period was derived and was used as the outcome measure for statistical comparisons between groups, grades and sessions.

Results: There were no significant differences between grades or groups nor were there significant interactions between these effects and the sessions variable. The sessions effect was significant (and it was concluded that this demonstrated task satiation).

Finch, A. J. Direct and vicarious delivery of social and monetary reinforcers. Unpublished doctoral dissertation. University of Alabama, 1970. Dissertation Abstracts International, 1971, 31 (10-B), 6254.

Subject: The study investigated the effect of direct and vicarious delivery of social and monetary reinforcers on imitative responses.

Methods: 32 males and 32 females were randomly assigned to one of four groups with delivery of reinforcement (direct or vicarious) and type of reinforcer (social or monetary), varied. Each subject was exposed to three periods as follows: 1) First Imitation Control period when neither model nor observer received reinforcement, 2) Treatment period when either social or monetary reinforcers were delivered vicariously or directly, and 3) Second Imitation Control period when neither model nor observer received reinforcement.

Results: Three hypotheses were confirmed: 1) Observers in the direct monetary reinforcement group exhibited significantly more imitative responses than observers in the vicarious monetary reinforcement group; 2) Observers in the direct social reinforcement group exhibited significantly more imitative responses than those in the vicarious social reinforcement group; and 3) Observers in the vicarious social reinforcement group tended to emit significantly more imitative responses than those in the vicarious monetary reinforcement group.

Fitz, R. J. The differential effects of praise and censure on serial learning as dependent on locus of control and field dependency. Unpublished doctoral dissertation. The Catholic University of America, 1970.

Subject: The general idea was to assess the communality between the concepts of field dependence (FD) and locus of control (external /EC/ and internal /IC/). It was hypothesized that FD and EC individuals would be more affected by external social reinforcement than field independents (FI) and IC individuals. In addition, a) FD and EC would respond better to praise and worse to censure than FI and IC, and b) EC and FD would be more attentive to cues of a social nature than FI or IC.

Methods: Subjects were 120 male high school juniors and were divided into the following three experimental groups matched for IQ: a) praise and one chip for correct answer, b) censure with one chip removed for wrong answer, and c) control (no reinforcement).

Results: The design was a 2 x 3 analysis of variance. Field dependence had fewer errors under censure than either praise or control. Internal control had fewer errors under control than either under censure or praise conditions. Field dependence and locus of control did not correlate. The memory variables were mostly not significant.

4(5)

Flanders, J. P. and Thistlethwaite, D. L. Effects of vicarious reinforcement, verbalization, and task difficulty upon imitation. Proceedings, 76 Annual Convention of the American Psychological Association, 1968.

Subject: This study varied vicarious reinforcement, task difficulty and the degree of verbalization by the model. It was hypothesized that: 1) verbalization would increase imitation under vicarious reinforcement but have no effect under a no reinforcement condition and 2) under the no reinforcement condition the imitation effect should be as frequent as expected if it were a random event.

Methods: Subjects were 100, 11-13 year old boys, in 24 cells in a 2 x 2 x 2 x 3 analysis of variance. They do not report the fourth factor. The factors were as follows: a) Subjects were told that the model's behavior was either correct or no feedback, b) the model either verbalized or did not verbalize his choice, and c) easy-hard task. The task was a discrimination one. After the experiment subjects were asked what cue the model made use of on the discrimination task. Also the degree of imitation was measured. Thus the two main variables were attentiveness and imitation.

Results: 1) Subjects in verbalization condition comprehended the model's solution to a greater degree than in the no verbalization condition ($p < .03$).

2) Greater comprehension resulted from the easier task ($p < .01$).

3) Subjects in the verbalization condition imitated more ($p < .01$).

4) Verbalization had no effect upon imitation for subjects in the no reinforcement condition ($p < .001$).

5) Subjects in the non-reinforcement condition imitated at higher than chance level.

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Flynn, John T. and Morgan, James H. A methodological study of the effectiveness of programmed instruction through analysis of learner characteristics.

Subject: The authors argue that perhaps programmed instruction (PI) and regular classroom methods are differentially effective for different people. This would explain why some research indicates the superiority of PI while others do not. This study is basically a methodological demonstration of the technique of co-variating out moderator variables which might affect receptivity to PI.

Methods: There were 96 subjects in six geometry classes in a New Jersey public school. The design of the study is shown in the diagram below.

ANXIETY	PI	Regular
High	n = 16	
Moderate		
Low		

An analysis of variance co-variance statistically controlling IQ and pretest achievement was run.

Results: Programmed instruction was not superior to regular instruction. Student achievement did not differ over anxiety levels. Finally, there was no interaction between anxiety and instruction method.

Fox, S. F. Social reinforcement effects as a function of utility and expectancy. Unpublished doctoral dissertation, Wayne State University, 1969. Dissertation Abstracts International, 1971, 32 (5-B), 2983-2984.

Subject: Goal of study was to determine the conditions under which a discrepancy between reinforcement baseline and reward inputs lead to discrepancy reducing strategies. Strategies were assumed to be a function of reinforcement value and the direction of the discrepant input. Research designed to demonstrate that previous studies failed to consider subjective differences in value which the stimulation may have for the subject.

Methods: 100 fifth and sixth grade girls were given a Measure of Preferred Source of Reinforcement (author's) i.e., greatest and least preference for women as reinforcers were those with the 50 highest and 50 lowest scores. This was the measure of reinforcement value (RV). Ten high and ten low RV's were randomly assigned to each experimental and control condition: 1) positive discrepancy, 2) non-discrepant, 3) negative discrepancy, 4) 80% control and 5) 20% control. They hypotheses were as follows: I) When RV is high, the negative discrepancy effect will occur (subject will emit more responses in order to increase the reward input) and II) When RV is low, the positive discrepancy effect will occur (subject will reduce responding in order to diminish reward inputs).

Task involved subject selecting one of three matching threads as the "best" match for each of 130 fabrics.

Results: 1) Under negative discrepancy conditions, high RV's conditioned significantly more than low RV's or subject in a non-discrepant condition.

2) Under positive discrepancy conditions, high RV's conditioned significantly more than low RV's although the difference between them was less than in the negative discrepancy condition.

Hypothesis I is supported; Hypothesis II is partially supported. The principal finding; in regard to disparity reducing strategies that subjects are not necessarily baseline oriented, as consistency-seeking principles would predict. While the subject is activated to respond by an input of stimulation which is discrepant from his expectancy baseline, the form of the response (i.e., consistency-seeking vs. approval-seeking) is a function of a complex interaction between the direction of the discrepancy and the value of the stimulation.

Frase, L. T. Effects of incentive variables and type of adjunct question upon text learning. Journal of Educational Psychology, 1971, 62(5), 371-375.

Subject: The study tested the following hypotheses: A) Informing subjects that they will be rewarded (with money) for recalling a reading will lead to higher recall when subjects are informed before reading when compared with subjects informed after reading, and B) Subjects with incentive will more easily pick up cues elicited by adjunct questions based on the reading.

Methods: Subjects were 48 undergraduate students, paid for their participation. The design varied:

1.	type of adjunct question	a) inferential, or b) factual
2.	incentive level	a) money incentive b) no money incentive
3.	the incentive was offered either	a) before reading b) after reading

Subjects were assigned to one condition and read three short passages. Each passage was preceded by adjunct questions which were to be answered by the passage. After the reading was finished, subjects were to write down all that they could remember about the reading. The adjunct questions were either factual or inferential. The basic dependent variables included the degree of factual or inferential recall as well as the number of adjunct questions answered correctly.

Results: 1) When the incentive condition preceded the reading, subjects made more correct answers to adjunct questions than when the incentive condition was presented after the reading ($p < .05$). 2) "Inferential" adjunct questions led to more recall than the "fact" questions ($p < .001$). 3) Incentive information before reading led to higher recall levels ($p < .005$).

Friedman, P., and Bowers, N. D. Student imitation of a rewarding teacher's verbal style as a funtion of sex and grade level. Journal of Educational Psychology, 1971, 62, (6), 487-491

Subject: The study looked at imitation behaviors in a naturalistic setting (the classroom). The general idea was to determine whether a teacher's classroom discourse would serve as a model for pupils when they interacted with peers.

Methods: Subjects were ten classes with ten different teachers at each of the preschool, kindergarten and grade one levels. There was a total N = 60 boys, 60 girls.

Observation was carried out using the OScAR4V on both teachers and pupils. Categorizing verbal statements in four classes yield:

a) considering
b) supporting
c) approving
d) non-substance

all are judged positive reinforcers

By summing the total frequency of occurrence of the four classes and dividing by the total verbal record yielded an index of frequency of reinforcement.

Results: The analysis concentrated on the six highest teacher ratios for each grade. Each category of verbal behavior was used as dependent measures with sex and grade level being the independent variables yielding a 2 x 3 ANOVA.

1. First graders imitated more than either preschoolers or kindergarteners ($p < .01$).
2. Girls generally imitated more ($p < .05$) than boys.
3. Girls who were older were more imitative than boys who were younger (interaction sex x grade $p < .05$).

Fry, C. L., Hopkins, J. R., and Hoge, P. Triads in minimal social situations. Journal of Social Psychology, 1970, 80, 37-42.

Subject: The study investigated the performance of subjects in social situations where each subject had some direct influence in a triad situation over the reinforcements directed to both the other members of the triad. He could reward or not reward one subject, and punish or not punish the other. The effects of information were also examined with a Minimal Social Situation (MSS) condition (minimal information was provided about the true social nature of the task), an Informed Social Situation (ISS) condition (informed of the social nature of the task), and a Leader Social Situation (LSS) condition (only the leader was informed of the social nature of the task). Performance and improvement in performance with practice were predicted to be best in the Informed Condition and worst in the Minimal Condition.

Methods: 144 male college subjects performed in triads in a two choice, minimal social situation which allowed each subject some direct influence over the reinforcements delivered to both the other triad members. Performance was examined over five successive blocks of 30 triads each.

Results: A significant main effect was found for information (MSS, ISS, and LSS). The ISS group performed best, as predicted; but the LSS group performed least well, rather than between the ISS and MSS group as had been predicted. The information as to the social nature of the situation improved overall performance in the ISS group, but, when only one subject was given this information, overall performance was depressed (LSS-group). However, only those two groups improved with practice, and it seems that information was associated with improvement.

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Fujitani, S. Subcultural differences in instrumental preference for reinforcers. Unpublished doctoral dissertation. University of Utah, 1969. Dissertation Abstracts, 1969, 29(10-A), 3459.

Subject: The study investigated the effects of ethnic group, socio-economic status (SES), and age on relative preferences for three reinforcers - verbal praise, pennies and candy.

Methods: Subjects were preschool and second grade boys from two SES (middle class /MC/ and lower class /LC/) within two American subcultural groups, European descent and Mexican descent. Five subjects in each of two age levels, with each cultural group and class, required a total of 40 children in a 2(Ethnic group) x 2(Social class) x 2(age) x 3(Reinforcer) x 3(Session) design.

Procedure involved a multiple schedule with three components which occurred in an irregular order. Each component differed in that only one of the three reinforcers (verbal praise, pennies, and candy) was available during a component. Each component had a pictorial subject associated with it representing the available reinforcer. The subject could terminate a component by not responding for four seconds. Of six dependent variables analyzed, the measure of the total number of each reinforcer accumulated per session was found to be the most sensitive and relevant to the present experiment.

Results: No ethnic difference in preference for reinforcers was found. The MC children preferred candy more than LC subjects, responded to pennies and candy about equally, and showed greater preference for pennies than for verbal praise. LC children, on the other hand, showed a greater preference for pennies than for candy, and preferred both to verbal reinforcement. Second grade children received more pennies than preschool children and more pennies than candy. Preschool children were only slightly (nonsignificantly) higher in preference for candy than second grade children. This finding was due to the fact that the preschool subjects received almost as many pennies as candy, thus depressing the level of the candy score to that of the second graders. Preschool children also received more candy and pennies than verbal reinforcement.

The low preference for verbal reinforcement may be related to the use of a taped voice, which has been found in previous studies to lose its reinforcing property rapidly.

Galbraith, J. and Cummings, L. L. An empirical investigation of the motivational determinants of task performance: Interactive effects between instrumentality-valence and motivation-ability. Organizational Behavior and Human Performance, 1967, 2, 237-257.

Subject: This study sought to operationalize and test two components of a motivational model thought to be useful in the explanation of productivity variations among operative workers.

Methods: 32 workers in a heavy equipment manufacturing plant were measured in terms of productivity valence, instrumentality, and ego involvement.

Results: General support was obtained for the interaction between motivation and ability. The findings supported Vroom's model of the interactive effects of valence and instrumentality in determining motivation. The authors suggest three conditions necessary for a component of the organizational reward system to exert a significant and predictable impact on employee behavior:

1) the reward must be desired by the employee--i.e., it must possess positive valence in the employee's preference ordering; 2) the employee must perceive that variations in his performance level will lead to variations in the amount of reward received--i.e., perceived instrumentality must be significantly different from zero; and 3) given 1 and 2, the technology, union contract, and other environmental factors constraining the effectiveness of the reward system must be such that the organization can vary the magnitude of the reward component sufficiently to evoke variations in employee behavior.

Gardner, David M. and Rowland, Kendrith M. A self-tailored approach to incentives. Personnel Journal, November, 1970, 49(11), 907-912.

Subject: The purpose of this article is to explore some of the assumptions made, point out their fallacies and suggest some ways in which a typical incentive program for salesmen can be modified and improved.

Results: The following are faulty assumptions that are often made about salesmen: 1) A salesman is an economic man; 2) All salesmen can be treated in a standardized fashion; and 3) A man's reaction to an opportunity to maximize his economic gain will be constant over time.

Personal environmental factors which affect behavior are 1) level of aspiration, 2) need for prestige and status, and 3) reference group.

According to the law of diminishing returns, we can anticipate over time diminishing returns from the use of the same reward. It seems logical to allow each salesman to tailor or select his own incentive program from a wide assortment of incentive plans. The salesman is more likely to work for an incentive he has chosen and that is consistent with his perceptions of an equitable reward system.

Hourly employees improve outputs with increased responsibility, General Electric Personnel Research Bulletin, No. 10, January, 1971.

Subject: This report describes a major change that was made in the way the jobs of a group of hourly employees were structured with regard to decision-making responsibilities in order to make the jobs more interesting and challenging, and to increase productivity and quality of outputs.

Methods: A group of 12 operators who performed welding and related operations was offered the option of restructuring of procedures, so that the group would have almost complete responsibility for all of the planning, scheduling, and control functions, including many functions which had been performed by salaried specialists. Leadership would be provided from within the group--the foreman would no longer be their boss, but would be designated as a "welding consultant" to them.

Results: The men showed enthusiasm for their work and cooperative attitudes toward management. Quality of work increased substantially. The prices the men themselves have set on their jobs have generally been no higher, and often a little lower than prices set by time study specialists who have analyzed the job independently.

Gilley, H. M. Effects of vicarious verbal stimuli on conditioning of hostile and neutral verbs. The Journal of Psychology, 1968, 71, 245-252.

Subject: The basic goal of this study was to determine whether a subject who has received prior social reinforcement will find future social reinforcement not as desirable and motivating as subjects with no prior social reinforcement. The specific aim was to observe whether the vicarious administration of praise or criticism would affect behavior on a conditioning task.

Methods: Subjects were 90 female, undergraduate students, divided into 18 treatment conditions (i.e., 3 kinds of experimenter actions toward a confederate in a pre-task; 3 conditions of verbal stimuli during the task proper; 2 critical response classes 3 x 3 x 2 = 18) such that n = 5.

Subjects and confederate were told the nature of the task (sentence completion). However before they started, experimenter reminded confederate that she had volunteered to take an I.Q. test. Confederate was put in one of three conditions as follows: a) she was praised after each subtest of the I.Q., b) she was censured after each subtest and c) neutral-no comments made on her behaviors. After these, each subject performed the task which consisted of making a sentence using either a hostile or a neutral verb written on cards. Confederates were programmed to elicit critical response (i.e., chose hostile or neutral verb to construct a sentence) in a predetermined sequence. The following three conditions were built in: a) confederate was praised for a critical response, and the subject was not, b) confederate never received reinforcement, while the subject received no reinforcement for trials 1-20, and then received positive praise for trials 21-100, and c) neither subject nor confederate were praised.

Results: 1) Subjects increased the number of critical verbs over trials, 2) subjects who had been vicariously reinforced (via confederate) and who had also been reinforced during the task used more critical verbs than the subjects who had not or had been negatively reinforced vicariously.

Goldsmith, A. F. The effects of verbal incentive, race and sex of examiner on digit symbol performance of Negro males and females. Unpublished doctoral dissertation. The City University of New York, 1969. Dissertation Abstracts International, 1970, 30(9-B), 4370-4371.

Subject: The study investigated the effects of verbal incentive, race, and sex of examiner on digit symbol performance of male and female Negroes.

Methods: 240 subjects were enrolled in a special compensatory education program at City University (all blacks). Each subject was randomly assigned to one of four examiners, as follows: 1) Negro male, 2) Negro female, 3) White male , and 4) White female; and to one of three incentive groups - 1)praise, 2) reproof, or 3) control.

The major dependent variable in the study was digit-symbol performance. Three measures of the dependent variable were obtained by 1) score before incentive was administered, 2) score after incentive was administered, and 3) the score signifying the difference between these two measures.

Results: Results indicated that race of the examiner alone was not a significant factor for performance of either male or female subjects. However, examiner's sex was important in that the highest performance level was achieved when the sex of the examiner was the same as the subject's. For the incentive conditions, male subjects performed best in the praise condition, but there was no significance between reproof and control conditions. Female subjects performed best under praise, then reproof, and lowest under control.

With interaction of all three variables considered, males had the highest performance with a Negro male examiner under praise, and females had the highest performance with a white female examiner under praise.

Goldstein, M. K. Behavior rate change in marriages: Training wives to modify husbands' behavior. Unpublished doctoral dissertation, 1971. Cornell University. Dissertation Abstracts International, 1971, 32(1-B), 559.

Subject: The study attempted to clarify the use of behavioral modification methods for treating marital complaints. A set of contingencies was devised stressing positive social reinforcement for prosocial behavior and no response for disturbing behavior.

Methods: Ten subject wives were trained to ascertain the rate of a response their husbands exhibited at home which they (the wives) wished to alter. The wives were then instructed to systematically employ selective social reinforcements upon the occurrence of the desired response in their husbands. Recording of behavior rates was continued throughout the experiment and, when necessary, contingencies were altered to achieve change.

Results: A time series analysis suggested that significant change in response rate was achieved in eight of the ten cases and combining the independent probabilities of occurrence resulted in $p < .001$ for the experiment as a whole. Follow-up study several months after the experiment revealed that satisfactory change had continued in six out of seven cases.

Gosciewski, F. W. The effect of expectancy reinforcement on arithmetic achievement, self-concept, and peer-group status of elementary school children. Unpublished doctoral dissertation. Kent State University, 1970. Dissertation Abstracts International, 1970, 31(5-A), 2179-2180.

Subject: The purpose of the study was to investigate whether a specific procedure of expectancy reinforcement applied by parents and/or teachers would result in improved arithmetic achievement, self-concept, and peer-group status among male fourth grade children.

Methods: 96 boys were randomly selected from those for whom their parents had indicated a desire to have their sons participate in the study. The three treatment conditions were as follows: 1) Parent-Teacher Reinforcement (PTR) and Parent-Teacher Reinforcement - Control (PTR-C) [subjects receiving parent and teacher expectancy reinforcement and the in-class control subjects]; 2) Parent Reinforcement (PR) and PR-Control (PR-C) [subjects receiving parent expectancy reinforcement and the in-class control subjects]; and 3) Teacher Reinforcement (TR) and TR-Control (TR-C) [subjects receiving teacher expectancy reinforcement and the in-class control subjects].

PTR and PR parents and PTR and TR teachers were instructed to reinforce their respective treatment subjects' performance in arithmetic in excess of what was in fact achieved. All control subjects (PTR-C, PR-C, and TR-C) and PR treatment subjects were assumed to be receiving the usual parental reactions. The study was twelve weeks in duration.

Results: The results indicate no improvement of arithmetic achievement, self-concept, or peer-group status. It appears, according to the author, that the conscious communication of a false expectancy, in the sense of the self-fulfilling prophecy, may be counter-influenced or nullified by the actual expectancy held by the communicator.

Gourley, M. H. The effects of individual counseling, group guidance, and verbal reinforcement on the academic progress of underachievers. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill, 1970.

Subject: The aim was to employ and contrast three methods to improve academic standing of underachievers.

Methods: Subjects were 48 ninth grade underachievers and 48 eleventh grade underachievers. The four treatment groups were:
a) non-directive individual counseling
b) group guidance
c) verbal reinforcement
d) control

Standard scholastic aptitude tests administered in pretest. Treatment lasted 18 weeks after which an equivalent form of the aptitude test and study habits and attitude scales were administered.

Results: 1) The achievement criteria were all not significant for treatments or grade levels. 2) Non-directive therapy was effective in improving study habits and attitudes whereas others were not.

Goyen, J. D., and Lyle, J. G. Effects of incentives upon retarded and normal readers on a visual-associate learning task. Journal of Experimental Child Psychology, 1971, 11(2), 274-280.

Subject: The basic idea was to determine whether social incentives are more effective with people who have been historically deprived of social incentives as compared to people who are used to social incentives. The populations consisted of retarded and non-retarded readers, under the assumption that normals probably get more positive social incentives than retardates.

Methods: Subjects were 28 retarded and 28 normal readers in primary schools. Subjects were to learn which two geometric shapes went together. Children were given two trials runs (practice). In the learning trials (six trials) the experimenter showed which figures went together. After each learning trial a test trial followed in which one figure was randomly presented and the subject had to pick the other member of the pair from among six choices of figures. The nonincentive treatment involved no response at all by the experimenter. The incentive conditions offered money, knowledge of results (good after correct response) and verbal encouragement to improve. Therefore, the design was a 2 x 2 ANOVA (retarded normal, incentive-nonincentive).

Results: 1) Incentive conditions yielded better performance over six trials ($p < .001$). 2) Learning rate was faster with incentives ($p < .001$). 3) There was no significant difference between retarded and normal readers on task. 4) There was no significant difference between retarded and normal readers on rate of learning. 5) No overall interaction (i.e., retarded did not respond better to incentives than normals).

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Graen, G. Instrumentality theory of work motivation: Some experimental results and suggested modifications. Journal of Applied Psychology, 1969, 53 (2), 1-25.

Subject: The author proposed an extension of Vroom's model, i.e., work role attraction depends upon the attraction (preference) for various role outcomes and the perceived instrumentality relationship between the work role and the various role outcomes. A person's work role satisfaction is predicted from his perceived work role attraction.

Methods: 169 female subjects were hired for a temporary job and assigned randomly to one of three treatments: a) a condition where favorable feedback of high achievement was perceived to be contingent upon effective performance, b) a condition where subjects received an outcome of money which was not contingent upon effective performance, and c) a control condition where subjects received neither achievement feedback nor money.

Results: 1) Data confirmed that the consequence of receiving an outcome following the attainment of the work role of a particular job increases the perceived instrumentality of that work role for the attainment of like outcomes. Instrumentalities can be responsive to actual experience rather than being independent of the external environment. 2) The achievement feedback group showed higher satisfaction than the control group with the role outcomes, achievement feedback, and recognition, and the money group showed higher satisfaction than the control group with the role outcome of salary. 3) The consequence of receiving a role outcome contingent upon the role of effective performer is an increase in the perceived instrumentality between that role and like role outcomes. Instrumentalities are responsive to actual contingencies and are not independent of the organizational climate.

Graubard, P. S. Use of indigenous grouping as the reinforcing agent in teaching disturbed delinquents to learn. Proceedings, 76th Annual Convention, American Psychological Association, 1968, 3, 613-614.

Subject: The author argues that contemporary teaching has taken the form of a process by which the teacher attempts to win the child over to the societal norms and values. The problem is that often acceptance of societal norms implies separation from group norms. Teachers use the "artichoke" technique which involves peeling people away from the group one at a time. This method has met only minimal success because the range of incentives available to teachers is narrow and because the group offers many more advantages than the societal or school norms.

Methods: The strategy proposed involved the use of group dynamics, i.e., manipulations such that the groups will allow members to learn. By this method, a Premack system was used (making high probability behaviors contingent on low probability ones) in which individuals in a group were rewarded only if one and all members of the group performed their obligations (e.g., learned). Subjects were disturbed delinquents.

Results: Subjects under the group system a) showed substantial decrements in antisocial acts and b) performed better on programmed tasks. The control was a typical individual reinforcement system.

Griffitt, W. and Guay, P. "Object" evaluation and conditioned affect. Journal of Experimental Research in Personality, 1969, 4, 1-8.

Subject: Tests of the hypotheses growing out of the reinforcement model of evaluative responses are conducted in two experiments. In the first experiment, subjects received positive or negative reinforcements from one individual (human-responsible /HR/) in the presence of a second individual (human-not responsible /HNR/) and evaluation (attraction) ratings of HR and HNR were obtained from subjects. It was hypothesized that attraction toward both HR and HNR would be a positive function of the proportion of positive reinforcements received by the subject. It was also hypothesized that differential evaluative responses given to nonhuman-nonresponsible /NHNR/ stimuli would be a positive function of differential positive or negative reinforcement associated with each.

Methods: Subjects were 48 male and female students from introductive psychology courses. Each subject evaluated a "stooge" who was simply present during reinforcement or a stooge who presented reinforcement (creativity judgments) to the subject for his responses (stories) to TAT pictures. It was a 2(reinforcement: negative - one or two evaluative rating after each response; positive - eight or nine evaluative rating after each response) x 2(stimulus object: human-responsible; nonhuman-responsible).

The second experiment was conducted in a manner similar to the first except evaluation of specific TAT pictures constituted the test data.

Results: Evaluation of both condederates (HR and HNR) was found to be a positive function of the proportion of positive reinforcements associated with each. It was also found that nonhuman stimuli associated with reinforcement is also a direct function of the positiveness of stimulus conditions associated with each.

Guilford, Joan S. Group treatment versus individual initiative in the cessation of smoking. Journal of Applied Psychology, 1972, 56, 162-167.

Subject: This study a) evaluated the effectiveness of a group treatment approach in enabling smokers who volunteered to try to give up the habit to do so for six months, and b) described the personal characteristics of smokers who succeeded in quitting as compared with those who tried and failed.

Methods: 173 subjects attended group treatment sessions commonly known as the Five Day Plan, while a comparable group of 175 smokers received no treatment.

Results: Differences in success rates favored the treated group but were attributable to differences of response according to subject sex. Males were unaffected by treatment, as a group.

Haaf, R. A. The rational zero point on incentive-object preference scales: A developmental study. Developmental Psychology, 1971, 5 (3), 537.

Subject: The study was designed to locate a rational zero point for incentive-object preference scales, in order that absolute preference values might be estimated (instead of relative preference values). One purpose was to distinguish between objects with positive and negative absolute value; the second was to determine the extent to which absolute values vary for subjects of different ages.

Methods: Sample was composed of three age groups (each had 20 males and 20 females): kindergarten, second and fourth grade. Subjects made paired-comparison and preference judgments of ten incentive objects. Four were single objects (bubble gum, chicklets, candy corn and dried lima beans) and six were composite objects (made of two objects in combination). Four sets of "Case V" (?) scale values were calculated, one for each age group and one for the total sample of 120 subjects. These relative values were then used to determine the rational origin for each scale. The rational origin was defined as the point with respect to which the sum of the two single object scale values equals the value of the corresponding composite object. Six estimates of the zero point were available, one for each composite. The average was used to compute absolute values for each scale.

Results: Significant levels of intra-subject consistency and of inter-subject agreement within each subgroup and consonant with previous research, the relative preferences were similar across age groups. With reference to the rational origin: three of the objects were positive valued in all subgroups and one (the value of the beans) was negative. Absolute value of bubble gum and of chicklets increased with subject's age. Results emphasize need for careful selection of incentive objects--an object of low relative value may be negative in absolute value and thus constitute an innocuous level of punishment rather than a low level of reward.

Haaf, R. A., Feldstein, J. H. and Witryol, S. D. A developmental study of children's incentive-object preferences. Developmental Psychology, 1970, 3, 275.

Subject: The purpose of the study was to explore the problems of consistency and agreement in children's paired comparison preference judgments of incentive objects. It also attempted to determine the extent to which preferences are affected by differences in school grade level and sex.

Methods: Kindergarten, second and fourth grade children made paired comparison preference judgments of 12 incentive objects. Ten sets of Case V scale values were calculated, one for the total sample of 120 subjects and three sets for each of the three grade-level sub-groups as follows: one for male subjects; one for female subjects and one based on subjects of both sexes.

Results: None of the subjects were inconsistent in making the preference judgments supporting the assumption that a subject's judgments provide a reliable representation of his preference hierarchy. Findings demonstrate that there was agreement between subjects regardless of how the sample was subdivided for the computation of scale values. Agreement in all groups was as high with the total sample scale as with the subgroup scale. Relative preferences of these subjects can be represented most parsimonously by a single set of scale values based on the total sample. Three clusters of objects appraised from this scale were as follows:

High Values: bubblegum, rat fink charm
Intermediate Values: penny, balloon, marble, chicklet, candy corn, plastic corn and M & M candy
Low Values: paper clip, lock washer and lima bean

Hall, R. V., Panyan, M., Rabon, D. and Broden, M. Instructing beginning teachers in reinforcement procedures which improve classroom control. Journal of Applied Behavioral Analysis, 1968 1(4), 315-322.

Subject: Three case studies were used to demonstrate how beginning and inexperienced teachers could be trained to use reinforcements to control classroom behaviors.

Case 1 - Students and the teacher were observed repeatedly in spots of ten seconds by two independent observers. Pupils were assigned an N rating for disruptive behavior and an S for nondisruptive behavior. The class rate of N/S (disruptive/nondisruptive ratio within a ten second observation interval) was .44 or 44%. First, the teacher changed the seating arrangements and wrote assignments on the board. This approach did not effect the N/S ratio very much. Secondly, the teacher was instructed to praise study behavior. The disruptive level then dropped well below baseline. Next, the teacher was instructed to reduce negative comments. This measure had no effects on the N/S ratio beyond the improvement already recorded. Finally, by reversing (i.e., no more praise for a while), N/S returned to baseline. With the reintroduction of reinforcement the N/S improved, which showed that the contingencies were effective and not just a random event. Spot checking as far as five months later showed maintained results.

Case 2 - This case was similar to Case 1 except that the improvement in study behavior was not deemed satisfactory yet. At this point, the teacher was asked to introduce a well liked game and to make participation in the game contingent upon improved study behaviors. Study behaviors increased greatly. An unplanned reversal (teacher cancelled the game and read stories) caused a relapse into inappropriate baseline behavior. Reinstatement of the game produced a return to appropriate actions by pupils.

Case 3 - This case was the same as Case 1 and again the increase in study behavior after increasing reinforcement was judged unsatisfactory. A "reversed Scanlon Plan" was used by which any disruptive actions by any member of the class constituted a penalty. A penalty was a chalk mark which represented cutting recess by ten seconds for each disruption. Twenty-four violations resulted in no break. This was effective and the disruptive behavior dropped to tolerable levels.

Hamilton, D. L., Thompson, J. J., and White, A. M. Role awareness and intentions in observational learning. Journal of Personality and Social Psychology, 1970, 16(4), 689-694.

Subject: The study investigated the importance of awareness in observational learning. It was hypothesized that subjects who a) observed models reinforced for correct responses in a verbal conditioning experiment and b) verbalized the relationahip between the model's response and reinforcement would subsequently show greater change in their own performance than would either subjects who observed models reinforced for correct responses, but did not verbalize the response reinforcement contingency, or subjects who observed verbal conditioning sessions in which no reinforcements were administered to the models.

Methods: 37 college males observed confederates in a verbal conditioning experiment. The experimenter either gave social reinforcement (mmm-hmm) whenever a confederate used a critical word category (models-reinforced condition) or gave no reinforcements at all (models-not-reinforced condition). Preobservation and post observation of subject performance on a task similar to that for which confederates were or were not reinforced was assessed.

Results: Significant changes in performance were found only for those subjects in the models-reinforced condition who a) were aware of the contingency between models' responses and experimenter's reinforcements, and b) expressed a positive intention to imitate the model's behavior.

Hansen, J. C., Niland, T. M., and Zani, L. P. Model reinforcement in group counseling with elementary school children. Personnel and Guidance Journal, 1969, 47(8), 741-744.

Subject: The study investigated the effectiveness of model reinforcement and reinforcement groups counseling with elementary school children using sociometric status as a criterion. It was hypothesized that low sociometric students in the model reinforcement groups would increase in social acceptance more than the low sociometric students in counseling groups all without adequate social models. It was also hypothesized that both counseling groups would make significantly more gains in social acceptance than students receiving no counseling.

Methods: 18 low sociometric students experienced group counseling with sociometric s tars included as models (six groups); 18 others experienced group counseling with all low sociometric students (three groups); and a control group met for an activity period. The counselors followed a social learning theory or behavioral approach in conducting the reinforcement groups. The interviews were semi-structured, focusing discussion on the reading material and personal experiences with the counselor reinforcing ideas, insights, and suggestions relevant to acceptable social behavior.

Results: Findings indicate that low sociometric students in the model reinforcement groups made significantly more gain in social acceptance than either those receiving counseling without models or the control groups. The findings suggest that models in group counseling serve to strengthen learning about social behavior. Models who are socially successful appear to be more effective reinforcers than just a counselor and other low sociometric students. A two month follow-up showed the sociometric gains were retained.

Hapkiewicz, W. G. The application of contingency management techniques to the teaching of teachers. Paper presented at the Midwestern Psychological Association Convention, Cleveland, 1972.

Subject: The general aim of this study was to contrast a variant of the contingency management technique in education to the typical lecture-exam system using a different population (other than undergraduates) and with a new dependent measure.

The contingency management technique of teaching (developed by Keller, 1968) includes the following features: (1) student progress at their own pace, (2) mastery of one unit is a requisite for progression to the next unit, (3) infrequent lectures, scheduled as a function of need, (4) behavioral objectives set, and (5) proctors used to test, provide knowledge of results, tutoring, etc. Ferster (1968) elaborated on Keller by adding an interview in which one student tested another student who had read up on the material. This interview was given orally.

Finally, subjects were told what performance level was required for any grade level (A, B, etc.) and subjects were free to chose whatever performance level they wanted.

Methods: Subjects were graduate students. The study was run over three quarters (n = 46, 34, and 44 respectively). The first and third terms served as experimental, while the second term was a control condition. In the first term, students served as interviewers and interviewees, and instructors graded and provided knowledge of results on tests. Second term subjects got the same material as in the first quarter, but via a lecture and grades were determined by exams. Third term subjects returned to the contingency management, but more advanced students served as proctors and interviewers and they graded and provided feedback.

Results: The findings were as follows: 1) Using the final scores on the course as the dependent measure, the experimental classes did better than control ($p < .01$), but non significant between experimental treatments; 2) Classes in the experimental rated their classes more favorably ($p < .05$), but non significant between experiments; 3) There was no significance between students ratings of classes one and three.

Hartup, W. W. and Coates, B. Imitation of a peer as a function of reinforcement from the peer group and rewardingness of the model. Child Development, 1967, 38(4), 1003-1016.

Subject: The study tested the hypothesis that the effect of exposure to rewarding peer models, as compared to nonrewarding models, depends on the subject's general history of reinforcement from the peer group.

Methods: 56 nursery school children were selected as subjects. The design consisted of a 2(Frequency of reinforcement from peers- frequent or infrequent) x 2(Rewarding peer model versus Nonrewarding peer model). Subjects observed a peer model who had previously given them frequent or infrequent reinforcements. The behavior modeled was a series of altruistic acts of giving rewards to some other person.

Results: Subjects exposed to an altruistic peer model displayed significantly more altruism than subjects not exposed to a model. It was also found that subjects who had a history of frequent reinforcement from their peers imitated a rewarding model significantly more than a nonrewarding model; on the other hand, children who received infrequent reinforcement from peers imitated nonrewarding peers significantly more than rewarding peers.

Hartup, W. W., Glazer, J. A. and Charlesworth, R. Peer reinforcement and sociometric status. Child Development, 1967, 38(4), 1017-1024.

Subject: The basic goal was to study the impact of the dispensing or withholding of positive and negative reinforcers by children as a function of their peer-determined sociometric status. The hypotheses tested were as follows: 1) Social acceptance is related positively to the degree of positive reinforcement dispensed to peer group but is not related to the frequency of negative reinforcement; 2) Social rejection related positively to the degree of negative reinforcement dispensed to peer group but not related to frequency of positive reinforcement; 3) A subject receives more positive reinforcement from liked peers than disliked peers; and 4) A subject receives more negative reinforcement from disliked peers than from liked ones.

Methods: Subjects were 32 four year olds in two nursery classes. Peer reinforcement was measured by observers over a five week period randomly selected throughout the school year. Sociometric status was determined by having each subject look at pictures of all other subjects and pick out three most and three least liked.

Results: Correlational analysis was used as well as non-parametric sign tests. Subjects received more positive reinforcement from liked than disliked peers. There was no significant difference in negative and positive reinforcement from liked and disliked peers. Both liked and disliked peers produced more positive than negative reinforcements.

Haslam, W. B. The effect of apparent reward on behavior in certain problem-solving groups. Unpublished doctoral dissertation. Brigham Young University, 1970. Dissertation Abstracts International, 1971, 31(7-A), 3638.

Subject: The purpose of the study was to focus on changes in interpersonal behavior occurring after selective reinforcement.

Methods: Some orientations toward group processes were preassessed, and the subjects were placed into thirty, three-person groups containing a self-, an interaction-, and a task-oriented subject. All groups completed two problem-solving sessions. Visual reinforcement was given to one subject in each experimental group during the second session. Subjects evaluated group performance following each session.

Results: No changes occurred in the control groups in self-evaluation, leadership behavior, or quality or quantity of participation. Reinforced experimental subjects were rated as showing more leadership behavior, and more and better responses. Experimental interaction-oriented subjects tended to lower their self-evaluations when they were not personally reinforced and when they observed reinforcement of another subject. Task-oriented subjects appeared to lower the quality of their responses under these conditions, and task- and self-oriented subjects appeared to lower the quantity of their responses.

Hassett, I. D. P. The effects of type of reinforcer on several lower-class cultural groups. Unpublished doctoral dissertation. The University of New Mexico, 1970. Dissertation Abstracts International, 1971, 31 (10-A), 5200.

Subject: The examined hypothesis was that there would be significant differences between the reinforcer effectiveness of money, candy, personal praise, and praise that is directed to the subject's performance for lower-class pre-school Anglo, Navaho, Spanish-American and Black children. Reinforcers would be effective for Anglo and Spanish-American children in the following order: money, candy, with no difference between the two praise conditions. Reinforcers would be effective for Black and Navaho children in the following order: personal and performance praise would be equally effective, followed by candy, then money.

Methods: 72 subjects (half males, half females) from each of the four lower-class cultural groups were randomly assigned to four reward conditions: money, candy, personal praise and performance directed praise. Each subject was given a ten minute marble-dropping task, in which the third minute was designated as the baseline. During minutes 4 through 10, two response measures were derived for each subject: rate of response and a reinforcer effectiveness score. Data on both of these measures were subjected to an analysis of variance.

Results: Data in the Navaho population were excluded because it was deemed invalid; most of the subjects could not follow the directions. The predicted Culture x Reward interaction was not significant. It appeared, therefore, that lower-class membership rather than cultural or racial factors influenced the unanimous response to the material reward conditions. The Reward condition on both response measures was significant. Candy differed significantly from the three other reward conditions at the .01 level. At the .05 level, the greatest difference was between candy and performance praise. A Reward Condition x Sex interaction was obtained--males responded more to the two praise conditions than did females.

Heilbrun, A. B. Perceived maternal child-rearing experience and the effects of vicarious and direct reinforcement in males. Child Development, 1970, 41(1), 253-262.

Subject: The purpose of the study was to compare the effects of vicarious reinforcement with those of direct reinforcement and no reinforcement for late adolescent males of varying perceived maternal child-rearing backgroud. These locus of reinforcement effects were considered for both positive and negative reinforcement and for two dependent variables (achievement motivation and perceptual-motor performance).

Methods: Subjects were 176 males from undergraduate courses who volunteered to participate. Subjects were administered the Parent Attitude Research Instrument (PARI) and the Parent-Child Interaction Rating Scales. Subjects were given a digit-symbol test prior and following one of the following three conditions: (1) Direct reinforcement - subject reinforced in responses to an angle discrimination task, (2) Vicarious reinforcement - subject watched other subjects reinforced for responses in task, and (3) no reinforcement.

Results: Expected vicarious and direct reinforcement effects upon achievement motivation were found for high contol/low nurturance and low control/low nurturance subjects but not for the high nurturance group. Opposite direction interactions were found for the high control/low nurturance and low control/high nurturance group when perceptual-motor performance change was considered. Positive and negative vicarious reinforcement effects were the most apparent in the high control/low nurturance group; the low control/high nurturance group demonstrated the least expected effect of vicarious reinforcement.

The study concluded that 1) the effects of vicarious reinforcement are related to perceived maternal-child rearing experience and 2) that perceived child-rearing reinforcement contingencies may vary considerably depending upon the locus (direct versus vicarious) and quality (positive versus negative) of the reinforcement.

Hekmat, H. and Lee, Y. B. Conditioning of affective self-references as a function of semantic meaning of verbal reinforcers. Journal of Abnormal Psychology, 1970, 76, 427-433.

Subject: It was predicted that there would be a significant difference in the rates of verbal conditioning of affective self-references (ASR) with the three verbal reinforcers as follows: "mmm-hmm", "good" and "wonderful." It was also predicted that a relationship exists between the intensity of meaning rating of the verbal reinforcers on Osgood's semantic differential scales (evaluative, potency and activity) and their efficacy in modifying affective self-reference behavior in a quasi-structural interview.

Methods: 40 subjects were selected based on infrequent affective self-references made on a pretest. Subjects were then randomly assigned to one of the four following groups: a) Subjects received "wonderful" contingent upon every affective self-reference (ASR); b) Subjects received "good" as a reinforcer of ASR's; c) Subjects received "mmm-hmm" as a reinforcer of affective self reference responses; and d) Subjects received reinforcement randomly with "mmm-hmm" for 10% of their responses on a noncontingent basis. Prior to treatments, subjects were given a semantic differential form and instructions and asked to rate some frequently used reinforcers (e.g., marvelous, good, great, mmm-hmm) on each of the three scales (evaluative, potency, activity).

Results: The group reinforced with "wonderful" produced the highest and the one with "mmm-hmm" the lowest frequency of self-references. The verbal reinforcer rated positively highest on Osgood's semantic differential scales produced the strongest conditioning effect. Results suggest that classical conditioning of meaning may underlie the establishment of reward value of verbal reinforcers. Osgood's semantic differential scales are of considerable value in identifying the magnitude of verbal reinforcers in behavior modification research and practice.

Hemry, F. M. P. Verbal and nonverbal reinforcement combinations as related to impulsive-reflective style of responding in primary grade children. Unpublished doctoral dissertation. The University of Texas at Austin, 1969. Dissertation Abstracts International, 1970, 30(12-B), 5675.

Subject: The study attempted to determine whether response style (impulsive - reflective) was related to the effectiveness of reinforcement type (verbal - nonverbal) and/or reinforcement combination (reward - punishment).

Methods: Subjects were divided into impulsive and reflective groups based upon a median split of the distribution on the Matching Familiar Figures task. Subjects from the impulsive and reflective groups were randomly assigned to one of six experimental groups yielding fifteen subjects per group (N = 180). Subjects were first grade males. Experimental treatments were as follows: 1) verbal reward ("right") when subject was correct on a trial, 2) verbal punishment ("wrong") when subject was incorrect on a trial, 3) verbal reward and punishment ("right" and "wrong"), 4) nonverbal reward (penny), 5) nonverbal punishment (buzzer), and 6) nonverbal reward and punishment (penny and buzzer). The task was a discrimination learning task.

Results: Two main effects, response style (impulsive - reflective) and reinforcement combination (reward - punishment) were significant. Overall, reflective subjects had fewer errors. Subjects' performance was poorest in the reward conditions and better on the punishment and reward and punishment conditions. No definitive conclusions could be reached concerning possible interaction effects between response style and effectiveness of reinforcers.

Herman, Steven H. and Tramontana, Joseph. Instructions and group versus individual reinforcement in modifying disruptive group behavior. Journal of Applied Behavior Analysis, 1971, 4, 113-119.

Subject: The purpose of this study was to assess the effects of instructions, as well as group and individual reinforcement contingencies, in modifying the behavior of groups of subjects.

Methods: The subjects were Head Start children. They were divided into two groups with two males and one female in each group.

Phases in Experiment

1. Classroom baseline
2. Experimental room baseline
3. Token training and reinforcement in experimental room
4. Instructions added to reinforcement
5. Return to baseline in experimental room
6. Reinforcement and instructions in experimental room
7. Baseline in regular class
8. Reinforcement and instructions in regular class
9. Return to baseline in regular class

Results: Reinforcement conditions (group or individual) did not produce differential effects. There was very little carry over from the experimental classroom to the regular classroom.

The results suggest that a) the combination of instructions and reinforcement is much more effective than either one of these alone, b) behavior change is specific to the environmental contingencies, and c) the group reinforcement technique, which is much more easily implemented, was at least as effective as individual reinforcement.

Hersen, M. and Greaves, S. T. Rorschach productivity as related to verbal reinforcement. Journal of Personality Assessment, 1971, 35(5), 436-441.

Subject: There is a tradition in personality assessment by which the number of responses to projective techniques and tests is indicative of respondent characteristics (e.g., IQ, compulsive need for quantity, or productive capacity). The authors wondered whether the experimenter characteristics independent of subject characteristics might affect this assumption.

Methods: Subjects were 100 male undergraduates. Four groups of subjects (n = 25) were drawn from the total based on scores on a test of verbal intelligence, such that all groups were about equal in verbal intelligence. The Rorschach was administered under one of the following four conditions for each group: 1) continuous reinforcement (good) after each response (CR); 2) reinforcement (good) after each human response (HR); 3) reinforcement after each animal response (AR); and 4) no reinforcement (control).

The experimenters then determined who in the samples were aware of the contingencies and who were not.

Results: Findings were as follows: a) CR produced more total responses ($p < .05$); b) HR produced more human responses than control ($p < .005$); c) HR aware produced more human responses than HR unaware ($p < .005$); and d) HR unaware were not significantly different from the control. This indicates that only when the person was aware did the conditioning work. The same findings resulted for the AR awares.

Hill, K. T. and Dusek, J. B. Children's achievement expectations as a function of social reinforcement, sex of subject and test anxiety. Child Development, 1969, 40(2), 547-557.

Subject: The study investigated whether the hypothesized tendency for social reinforcement to raise achievement expectations of High Test Anxiety (HTA) subjects more than Low Test Anxiety (LTA) subjects are stronger following failure than success.

Methods: 24 eight and nine year old children of each sex and at low and high levels of anxiety as measured by the Test Anxiety Scale for Children (N=96) were divided equally into six experimental groups according to the type of pretraining (success: easy puzzle, failure: difficult puzzle, or no pretraining experience) and reinforcement condition (social reinforcement or nonreinforcement from one or two males) in a subsequent angle-matching task. The subjects' achievement expectations were assessed prior to and following the experimental task.

Results: Following social reinforcement, expectations increased, the effect being stronger for girls than boys. Following nonreinforcement, achievement expectation remained stable for both sexes. Initial achievement expectations correlated negatively with test anxiety for girls. Change in achievement expectations correlated positively with test anxiety for boys in the social reinforcement condition. The sex difference in the facilitating effects of social reinforcement on achievement expectations was considered as being part of a possible sex of subject by sex of experimenter interaction.

Hill, K. T. and Stevenson, H. W. Effectiveness of social and visual reinforcement following social and nonsocial deprivation. Journal of Experimental Research in Personality, 1970, 4, 100-107.

Subject: The study investigated the effects of verbal and visual reinforcement as well as social reinforcement following three kinds of pretraining (Isolation - minimal visual, auditory and social stimulation; Film - viewed color film alone; and Satiation - viewed the film with an experimenter).

Methods: Subjects were 128 boys and 128 girls from the first and second grades. In a marble-dropping task following baseline, subjects received either supportive comments from the experimenter while present (Social reinforcement), supportive comments from the experimenter while out of the subjects sight (Verbal reinforcement), or the appearance of colored slides in the absence of the experimenter (Visual reinforcement).

Results: Findings indicated the following:

a) Baseline effects were found for sex of subject, sex of experimenter, and pretraining condition.
b) Change in performance from baseline was higher following isolation than satiation for boys under verbal reinforcement and girls under social reinforcement.
c) Under visual reinforcement, change in performance for girls was highest following isolation, intermediate in the film condition, and lowest following satiation, with the opposite effect for boys.

Hollander, E. K. The effects of various incentives on fifth and sixth grade inner-city children's performance of an arithmetic task. Unpublished doctoral dissertation. The American University, 1968.

Subject and Methods: The experimenter compared the effects of four types of reinforcements on children's performance of an arithmetic task. These four variables were: 1) verbal praise, 2) verbal reproof, 3) candy, and 4) no reinforcement. His samples (n = 622) were from fifth and sixth grade classes about evenly split with regard to sex of subjects. All subjects were administered 20 simple arithmetic problems. The experimenter then "graded" the test while the subjects were present, and then administered the following manipulations:

Group 1--were told that they had done well on first test and that they ought to strive for even better scores (verbal praise).
Group 2--were told that they had done badly and needed to improve (reproof).
Group 3--were told nothing (control).
Group 4--were promised candy bars if they improved on their first test performance.
Then a second equivalent test was administered.

Results: Analysis revealed: 1) Candy rewards increased performance speed. 2) Verbal praise increased performance accuracy. 3) Older children responded better to praise than younger ones.

Hornbeck, F. W. Studies in forced compliance : IX.
The effects of deception, commitment, and incentive on attitude change produced by the writing of a counterattitudinal essay.
Journal of Social Psychology, 1971, 83, 63-72.

Subject: The divergent findings concerning the relationship between the magnitude of incentive provided for the performance of counterattitudinal acts and subsequent attitude change were discussed. There was an emphasis on the lack of specificity in dissonance--theoretical discussions of the nature of the psychological implications which arouse dissonance in this situation.

The current study investigated the effects of deception, commitment, and incentive on attitude change.

Methods: Junior high school subjects were used under one of eight conditions defined by the variation of deception (low: subjects were told that experimenter's employer was interested in seeing what effect, if any, writing descriptions would have on their attitudes toward electronic music; high: subjects were induced to write the descriptions by explaining that it is easier to write on only one side of a topic than on both and that some description in the (counterattitudinal) role were needed), commitment (low: subjects did not supply their names and were told that the only person who would see the papers would be the experimenter's employer; high: subjects were asked to fill in their names on the essay form and were told that their descriptions would be used as part of a bulletin board display in a major corridor of their school), and incentive ($.25 vs. $1.50). Task was to write an essay on electronic music suggesting it is better than pop music.

Results: Although previously recognized conditions for the production of cognitive dissonance were met in at least the high deception-high commitment cells, subjects paid $1.50 evidenced more attitude change than those paid $.25 on an immediate post-test regardless of the level of deception and commitment.

Howell, M. A. Time off as a reward for productivity. Personnel Administration, Nov.-Dec., 1971, 48-51.

The author suggests that if the condition necessary for the emergence and satisfaction of higher level needs (self-actualization) can be assumed to be leisure, the management implications are quite different from those derived from studies in human relations in industry, i.e., no degree of job restructuring will provide genuine opportunities for self-realization. Creating the conditions for true autonomy and for the opportunity for self-realization may require a new look at work incentives. Time itself can be an incentive when employees are encouraged to produce innovative solutions for accomplishing the same work more efficiently and are rewarded with the same pay for less working time.

The use of greater time variations in industry would result in increasing employment opportunity while decreasing individual working time. Both leisure and work would be more evenly distributed through the adult population.

Time as an incentive, if tied as closely as possible to productivity, might be a vehicle for obtaining voluntary wage and price controls.

Humphries, J. M. and Stabler, J. R. Probability learning of children as a function of method of stimulus presentation, reinforcement contingencies, and incentive level. Journal of Genetic Psychology, 1969, 114, 167-170.

Subject: In order to clarify earlier differences in results in experiments on level of incentive and children's probability learning, an experiment was performed which varied method of presentation of stimuli (simultaneous vs. successive), reinforcement contingencies (a reward for correctly predicting the low probability alternative vs. no reward for doing so) and level of incentive (low vs. high).

Methods: 96 third grade subjects were, except for the restriction that equal numbers of boys and girls be assigned to each cell, randomly assigned to eight treatments. The design was a 2 (stimuli: Simultaneous--presentation of two decks of cards vs. Successive--presentation of one deck of cards) x 2 (reward or no reward) x 2 (high or low incentive marbles then traded for some small toy or just feedback on their correct guesses).

Results: Children predicted the high probability alternative significantly more often under conditions of simultaneous presentation of stimuli and under conditions of no reward for predicting the low probability alternative. Trial effects were also reliable. A sequence analysis showed variable effects of reinforcement contingency on children's predictions of the next particular stimulus. Incentive effects and incentive interactions were generally unreliable. Further research will be needed in order to clarify the relationship between incentive level and children's probability learning.

Ingling, J. O. H. The effects of factors associated with the Tafel presentation technique in the operant conditioning of verbal behavior. Unpublished doctoral dissertation. The University of Rochester, 1968, Dissertation Abstracts, 1968, 29 (1-B), 359.

Subject: The study investigated the effects of factors associated with Taffel card presentation technique in verbal operant conditioning.

Methods: 207 male and female undergraduates were assigned to one of four groups: (a) one group was required to construct sentences using the standard verbs but ending in object pronouns, (b) one group had the verb test modified to incorporate a series of verbs relating to school activities, (c) one group ran itself using a tape recorder, with no experimenter present, and (d) one group was run using nickels instead of good as the reinforcer. Data were analyzed for conditioning, awareness, position habit, pronoun preferences, response sequencing, total performance time, sentence length, and rate in words per minute.

Results:

1) no conditioning obtained in any group except possibly the nickel group, in which 17 of the 30 subjects reached a criteria of five successive correct responses.

2) approximately half the subjects displayed awareness, but no experimental treatment had a differential effect on the occurrences of awareness.

3) approximately 60% of the subjects displayed a significant tendency to prefer a particular one of the six position slots occupied by the pronouns.

4) irrespective of reinforcement, subjects showed decided tendencies to favor the pronoun "I," to avoid "you," and to use the other pronouns with intermediate and similar frequency.

5) a deliberate effort to induce subjects to give sequences of related sentences succeeded in producing more sentences of critical content among the Story Sequence Group than among the rest of the sample, indicating the importance of the verb as a discriminant stimulus.

6) the object pronoun variant of the task proved to be different from the standard subject pronoun version with respect to performance time, position habit, and pronoun preference.

7) the effort to obtain conditioning using nickels as reinforcers was notable for the reaction it generated in the subject's attitude towards the reinforcement.

Results were interpreted as supporting the notion that the presentation technique is a very considerable determiner of subject's responses in verbal conditioning.

Insko, C. A. and Cialdini, R. B. A test of three interpretations of attitudinal verbal reinforcement. Journal of Personality and and Social Psychology, 1969, 12, 333-341.

Subject: The study tested some predictions of the hedonistic, informational and two-factor interpretations of attitudinal verbal reinforcement through the manipulation of the reinforcing stimulus. "Good" and "huh" were used as potentially reinforcing stimuli. According to the hedonistic interpretation the reward or appetitive value of "good" motivates subjects to make the "correct" responses. The informational interpretation suggests that "good" informs the subject of the interviewer's point of view and a simple conformity effect follows. The two factor interpretation suggests that "good" does two (both above?) things: 1) it provides information as to the interviewer's attitude and 2) it tells the subject that the interviewer approves of or likes the agree-disagree responses and thus by implication approves of or likes the subject himself.

With regard to the research reported, the informational interpretation predicted no differences between the "good" and "huh" conditions while the two-factor and hedonistic interpretations predict a greater effect in the "good" condition. The hedonistic and informational interpretations predicted a greater effect in the "good-huh" condition than in the "good" condition, while the two-factor interpretation predicts no differences.

Methods: Approximately 150 students from the University of North Carolina were contacted by telephone and asked to "strongly agree," "agree," "disagree," or "strongly disagree" with each of a series of 12 opinion statements regarding pay television.

Three independent variables were manipulated as follows: direction of reinforcement (pro or con), type of reinforcement ("good," "huh" or "good-huh"), and sex.

Results: The general pattern of results agrees with that predicted by the two-factor interpretation. The reinforcement effect in the "good" and "good-huh" conditions is not significantly different, and both conditions show a greater effect than the "huh" condition. The hedonistic and informational prediction of the greatest reinforcement effect in the "good-huh" condition was not supported. Furthermore, the information prediction of no differences between the "good" and "huh" conditions was not supported.

While there is perhaps some reason for accepting a correlation between awareness and attitudinal conditioning (at least when "good" is the reinforcer), we do believe that our results indicate that a significant effect can be obtained without awareness of the reinforcement contingency.

Insko, C. A. and Melson, W. H. Verbal reinforcement of attitude in laboratory and nonlaboratory contexts. Journal of Personality. 1969, 37 (1), 25-40.

Subject: The study investigates the relative sizes of the verbal reinforcement effect in laboratory and nonlaboratory contexts. The relative sizes of the laboratory and nonlaboratory effects are examined both early and late in the semester. If, as Orne suggests, demand characteristics are at least partially a product of campus Scuttlebutt, then there is some reason for supposing that laboratory verbal reinforcement should increase in magnitude late in the semester.
Two experiments were conducted.

Methods: Experiment I

Subjects were 72 males from Introductory Psychology classes. Half of the subjects were contacted through the normal procedure for obtaining subjects in lab experiments and half were contacted by phone. Subjects were asked to agree or disagree to a series of twelve opinion statements regarding pay TV. Half of the subjects were reinforced with "good" for responses indicating a positive attitude and half were reinforced with good for responses indicating negative attitudes. Immediately following the conditioning procedure, all subjects were asked the questions contained in an awareness questionnaire.

The design was a 2 (direction of reinforcement: pro or con) X 2 (time of the semester: early or late) X 2 (experimental contact: laboratory or telephone).

Experiment II

This experiment differed from Experiment I in three ways:
1) Response categories were changed from agree or disagree to strongly agree, agree, disagree and strongly disagree.
2) Subjects responded to eight opinion statements without reinforcement and then 12 opinion statements in which the "correct" responses were reinforced. The mean response to first eight statements provided baseline assessment of attitude prior to reinforcement.
3) Due to the fact that the subject pool began to "run dry" during the middle of the spring semester, all n's were built up during the middle of the semester and no data was obtained later in the semester.

Results: Both experiments demonstrated only a significant effect for reinforcement. No difference was found between verbal reinforcement of attitude in a laboratory context and verbal reinforcement of attitude in a nonlaboratory context. The demand characteristics interpretation of laboratory findings was not supported. For both experiments Dulany's three types of awareness scores (awareness of the reinforcement contingency; awareness of what the experimenter wants the subject to do: intuition to do what the experimenter wants the subject to do) were found to be positively correlated (sometimes significantly, sometimes nonsignificantly) with the attitude score, and reinforcement produced a significant effect for unaware subjects.

Jablonsky, S. F. and DeVries, D. L. Operant conditioning principles extrapolated to the theory of management. Organizational Behavior and Human Performance, 1972, 7, 340-358.

This article presents a predictive model of individual behavior based on both operant conditioning and management literatures.

The behavior of an organizational member is seen as a function of the reinforcement contingencies applied by various groups in his environment and of his cognitive assessment of such contingencies. The individual within an organization is surrounded by several unique social environments, each of which applies a possibly unique set of reinforcement contingencies for each of several behavioral alternatives.

Individuals' characteristics (both behavioral and cognitive) are explained in terms of a history of interaction between the individual and environmental contingencies, rather than treating characteristics of the individual as constants.

If organizations are to influence systematically the direction of their members' behaviors, they should:

1. Avoid using punishment as a primary means of obtaining desired behavior.
2. Positively reinforce desired behavior, and, where possible, ignore undesirable behavior.
3. Minimize the time lag between desired response and reinforcement, or bridge the gap via verbal mediation.
4. Apply positive reinforcement relatively frequently, preferably on a variable ratio schedule.
5. Ascertain contingencies which are experienced as positive and/or negative by the individual.
6. Ascertain the response level of each individual and use a shaping procedure to obtain a final complex response.
7. Specify the desired behavior in explicitly operational terms.

This model suggests that an organization is most likely to cause behavioral change in its members if the multiple sources of contingencies are all reinforcing similar responses, i.e., teacher and peer group reinforcing high academic performance. By applying group contingencies (e.g., everyone in the class receives the average score of the lowest four group members), the behavior reinforced by the peers switches radically.

Jackson, M. A. The effect of social and objective reward upon verbal learning in a disengaged and engaged population. Unpublished doctoral dissertation. Temple University, 1970.

Subject: The general aim was to compare paired-associate learning of aged people who were classified as "engaged" or "disengaged" under conditions of social or objective rewards.

Methods: Subjects were 68 males, sixty-five to eighty years of age. The subjects were equated on age and vocabulary level and separated into engaged and disengaged groups.

Results: Engaged subjects were more efficient and quicker than disengaged. Rewards benefited both groups, but especially the disengaged, i.e., rewards facilitated behaviors.

Jakubowski, P. A. Expectancy and the effects of consistent and inconsistent contingent social reinforcement. Unpublished doctoral dissertation. University of Illinois, 1968. Dissertation Abstracts, 1968, 29 (2-B), 771.

Subject: The purposes of the study were to test the hypothesis that expectancies are communicated through social reinforcement and to design a less restricted experimental situation which would permit a closer analysis of how expectancies operate.

Methods: 13 graduate student females served as examiners and 78 undergraduate males served as subjects. Subjects told stories in response to four picture cards. Half of the examiners expected their subjects to tell adult-centered stories while the remaining half of the examiners expected their subjects to tell child centered stories. Of the two examiner groups, one-third were given reinforcement directions which were consistent with their expectations (AA, CC), one-third were given reinforcement directions which were inconsistent with their expectations (AC, CA), and one-third were given no reinforcement directions (AN, CN). An expectancy questionnaire was administered to the examiners after reinforcement training.

Results: Analysis of the examiner's proportion of "hits" (reinforcement of the correct responses) revealed significant differences in the experimental groups. Both AA and CA groups had the identical task of ignoring child responses and encouraging the adult responses and differed only in their expectancies of subject story telling behavior. AA examiners correctly reinforced 93.5% of the responses while the CA examiners correctly reinforced 29.4% of the responses. The different expectancies held by the examiners clearly influenced the examiner's reinforcement accuracy. In both instances inconsistency between expectancy and reinforcement led to decreased accuracy on the part of the experimental examiners.

Jones, Q. R. Verbal conditioning as a function of selected visual and auditory characteristics of the experimenter. Unpublished doctoral dissertation. Auburn University, 1968. Dissertation Abstracts, 1968, 28(11-A), 4448.

Subject: The study attempted to determine whether or not verbal conditioning rates of subjects are related to selected visual and auditory characteristics of the experimenter.

Methods: Separate randomly selected groups of subjects were assigned at random to eight experimenters each of which differed from one another in sex, physical size and voice intensity.

Each subject was administered a series of conditioning trials during which his experimenter reinforced his (the subject's) use of a particular type of verb in making up a sentence by saying "good!"

Half the subjects were reinforced for the use of a "mildly hostile" verb and the other half were reinforced for the use of a "mildly friendly" verb in making up sentences.

Results: Findings indicated that the conditioning rates of subjects who were reinforced for the use of "mildly hostile" verbs were significantly related to the physical size and voice intensity of the experimenter. No significant relationship was found between the conditioning rates of subjects who were reinforced for the use of "mildly friendly" verbs and the selected experimenter characteristics featured in the study.

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Kanfer, F. H. and Duerfeldt, P. H. Learner competence, model competence, and number of observation trials in vicarious learning. Journal of Educational Psychology, 1967, 58(3), 153-157.

Subject: The purpose of this research was to investigate model competence effects on the strenghth of behavior modeling. The distinction of the study is that competence was not defined by experimenter or by status, but could be directly inferred by subjects' perception of the model's behavior.

Methods: There were 135 subjects (n = 15) used in the study. The task was a paired-associate learning task with nonsense syllables. Model tapes were constructed. The tapes portrayed another subject in the experiment who was either in an early (many errors) or a later (fewer errors) stage of acquisition of the learning task. Subjects were told to perform the task. The experimental group was told that they would be given breaks during which they heard how other subjects (the model tapes) performed on the task. The breaks occurred either early or late in the acquisition of subjects. This yielded an analysis of variance in which experimental versus control, early versus late modeling, and competent versus incompetent models served as independent variables. (Subjects also saw either one or three modeling blocks.)

Results: There were no differences on total performance (number of errors on last block of trials) as a function of the number of modeling experiences (i.e., one block or three) and no differences as a function of model competence were observed.

Subjects who received modeling late in acquisition performed more poorly than those who received modeling early during acquisition ($p < .05$).

Analysis between experimental and control groups, on the block immediately following a modeling experience, found no difference. The implication is that the modeling could not be interpreted as an interference effect for subjects in the early modeling, i.e., the disruptive effect was not due to the relative distance between when the modeling occurred and the picking up of data which existed. (Note: Some subjects had the modeling on trial 3, others on trial 6 and data was picked up on trial 8.) Final analysis revealed that the modeling was disruptive only in late acquisition.

Kanfer, F. H., Duerfeldt, P. H., Martin, B., and Dorsey, T. E. Effects of model reinforcement, expectations to perform, and task performance on model observation. Journal of Personality and Social Psychology, 1971, 20 (2), 214-217.

Subject: The general aim of the study was to determine whether attending to a model is influenced by (a) whether subject expected to engage in the modeled task later, (b) reinforcement to the model was high or low and (c) whether a second observation period followed or preceded execution of the modeled task.

Methods: There was a total of 145 second grade boys, n = 15, 8 experimental and 1 control (n = 25). Subjects were to chose between two slides by pressing a button under the preferred slide. The slide either pictured a boy sitting at an apparatus similar to the one they were working with (model slide), or a landscape (neutral). In the low reinforcement modeling slide the word YES was printed above the apparatus which the model in the slide was on, indicating that the model had been correct on his task. In the high reinforcement modeling slide the word YES and the boy accepting a toy and smiling gleefully, indicated a high reward for being right.

The experiment involved four phases. Phase 1: All subjects were given a free-choice situation and after 14 choices the slides were equated such that all subjects saw all slides. At phase 2, half the subjects were told they would be given a chance to play the game modeled, 1/2 were told they would not (expectation and no expectation groups). One half of the subjects in each subgroup either saw high or low reinforcement slides. In phase 2, subjects were not given a choice. In phase 3 one half the subjects in each subgroup were returned to free-choice and one half were given the actual task modeled. In phase 4 this was reversed such that those subjects who had performed the task now had a free-choice and vice-versa. The design was a 2 (high-low reinforcement) x 2 (expectation-no expectation) x 2 (play the game late-early) analysis of variance.

Results:

1. Initially all slides were equally attractive to subjects.
2. Generally subjects' attentiveness increased when the second free-choice was given late ($p < .01$).
3. Subjects attentiveness decreased when the second observation period came before the playing of the game modeled.
4. The high or low reinforcement conditions were not significantly different.
5. Children who were told they would play the game (expectation) attended more than subjects who had no-expectation ($p < .05$).
6. Subjects who saw the models performed better on the modeled task than those who did not ($p < .005$).

Kanfer, F. H., Duerfeldt, P. H., Martin, B., and Dorsey, T. E.--Continued

Conclusion: 1. Vicarious reinforcement may not increase attentiveness but may enhance performance. However, it may well be that the reinforcement provided was not sufficiently different (positive vs. positive and material). 2. Expectation of performing the task does increase attentiveness.

Kaplan, M. F., and Olczak, P. V. Attitude similarity and direct reinforcement as determinants of attraction. Journal of Experimental Research in Personality, 1970, 4, 186-189.

Subject: The study examined the role of direct reinforcement upon attraction under different levels of attitude agreement. It was expected that increased similarity and reinforcement should combine linearly to increase attraction, i.e., no interaction was expected.

Methods: Subjects interacted with a confederate in one of three conditions of direct reinforcement by the confederate (100, 50, or 0% reinforcement) associated with one of three levels of similarity of attitudes (100, 50, or 0% similarity on exchanged attitudinal items between subject and confederate).

Results: Significant effects on attraction responses were found for both variables with no interaction noted. It was concluded that, in addition to previously identified reinforcement variables, direct reinforcement from the other is related to attraction; the proportion of positive reinforcements probably combining in a linear, weighted average fashion to produce attraction responses.

Kaplan, M. F., and Olczak, P. V. Attraction toward another as a function of similarity and commonality of attitudes. Psychological Reports, 1971, 28, 515-521.

Subject: One approach in accounting for the direct relationship between attitude similarity and attraction is to treat agreement as a reinforcer, providing reward through consensual validation. The present study is a test of the implication that consensual validation would be more rewarding, hence attraction greater, when agreement is with a minority, rather than a majority, attitude. That is, a minority position on a given attitude dimension has presumably received less consensual validation than a majority position, and agreement should constitute more of a reward. It was also predicted that the differences in similarity effect between subject groups should be greater for an important than unimportant topic.

Methods: Minority or majority subjects compared attitudinal responses on an important or unimportant topic with a confederate who agreed with either 25% or 75% of responses. Further, regardless of initial position, half the subjects were told they were in a majority; half, a minority. Censorship and attitudes toward physical education were the two topics deemed important and unimportant respectively. Minority and majority positions for subjects were determined by comparing individual scores against group means.

Results: As predicted, for minority opinion subjects, increased attitude agreement led to greater attraction independent of topic importance. Increments in agreement, on the other hand, did not enhance attraction when subjects were in a distinct majority in their attitudes. While the second prediction was not confirmed, i.e., that the differential effect of level of agreement for minority and majority subjects would be maximized on an important scale, topic importance did enhance the similarity effect in majority opinion subjects given minority feedback.

Kaplan, M. G. The effects of social reinforcement and sex of peer reinforcing agent on the performance of boys and girls as a function of pretraining experience. Unpublished doctoral dissertation. University of Illinois at Urbana-Champaign, 1970. Dissertation Abstracts International, 1971, 31(9-B), 5604-5605.

Subject: The study reviews certain previous findings and concludes that it is the unexpected, unfamiliar aspect of the reinforcing agent which enhances the effectiveness of social reinforcement from peers. The present study manipulated the expectation for reinforcement through pretraining experience, positing that social reinforcement would be effective to the degree that it was unexpected. Another factor of interest was the sex of the child relative to that of the peer reinforcing agent. The prediction was made that the cross-sex effect (opposite-sex reinforcing agent better or more effective than same-sex agent) would replicate in the no pretraining condition with child reinforcing agent (RA) and child subject pairs on the basis of the assumption that reinforcement is less expected from an opposite-sex than a same-sex child.

Methods: 144 third graders were selected and assigned to conditions in a 2(schools) x 2(sex of reinforcing agent) x 2(sex of subjects) x 3(pretraining conditions - no pretraining, reinforcement pretraining, and nonreinforcement pretraining) x 2(type of reinforcement- social reinforcement and nonreinforcement) x 6(minutes - six response minutes). The task used was a marble-dropping task. The dependent variable was a different score computed separately for each subject by subtracting the base rate response from the number of marbles dropped in each of the six response minutes.

Results: Results showed significant differences on base rate of schools and pretraining conditions which may have influenced other findings by limiting the amount of positive change from base rate to subsequent minutes in groups with high base rate compared with the amount of change possible for groups with low base rate.

The cross-sex effect did not replicate for the no pretraining condition but was found after nonreinforcement pretraining. Results also suggested that the experimental manipulation of expectancy through pretraining experience did result in differential response to reinforcement.

Karabenick, Stuart A. Valence of success and failure as a function of achievement motives and locus of control. Journal of Personality and Social Psychology, 1972, 21(1), 101-110.

Subject: This study sought to do the following: 1) test the inverse linear assumption of Atkinson's model between incentive value of success (Is) and subjective probability of success (Ps); 2) investigate the relationship between incentive value and individual differences in achievement motives; and 3) determine if locus of control beliefs acted as a moderator of affect in achievement situations.

Methods: 61 male undergraduates performed twenty anagram and twenty substitution tasks. Subjects rated their valences on different rating forms.

Results: Findings were as follows: 1) inverse linear relationships between valence of success and subjective probability of success and between valence of failure and subjective probability of failure were found for the subjects as a group; 2) analyses of individual ratings also revealed significant nonlinear trend components for half of the sample which were apparently canceled by the averaging process; and 3) subjects with relatively high internal control beliefs generated steeper slopes than persons with relatively low internal control beliefs.

Karoly, P. A functional analysis of emitted social reinforcement: The effects of received reinforcement and reinforcement history. Unpublished doctoral dissertation. The University of Rochester, 1971. Dissertation Abstracts International, 1971, 32 (3-B), 1848.

Subject: The intent of the study was to extend aspects of operant theory and methodology to the experimental study of human social interaction. Present functional analysis of social reinforcing behavior sought to relate emitted reinforcement as a dependent variable to immediately contingent received reinforcement and to long-term history of social reinforcement emission and receipt.

Methods: Two experiments were performed in which subjects simulated interaction with a video-taped "other." Subjects were instructed to translate positive, approving or rapport-building statements and/or gestural responses into the press of a button. Continuous response recording was carried out over three fifteen minute "interaction" sessions. Experiment I sought to demonstrate the "operant" status of emitted social reinforcement. Males viewed female in a video tape talk about her university experience. Following baseline recording of emitted reinforcement, experimental subjects were exposed during a second interaction session, to contingent evaluational feedback, ostensibly from the taped female stimulus. Experiment II examined the relationship between a sociometric measure of interpersonal success and laboratory baserate of emitted reinforcement.

Results: The Experiment I results support the hypothesis that emitted social reinforcement can potentially be brought under consequential control.

For Experiment II the prediction that subjects judged as less successful would emit fewer reinforcements during baseline than relatively successful subjects was confirmed, providing convergent validity for baseline laboratory performance as a measure of reinforcement history and support for an operant-interpersonal theory of social behavior. A postulated interaction between reinforcement history and the functional effectiveness of received reinforcement failed to materialize.

Kennedy, T. D., Timmons, E. O., and Noblin, C. D. Nonverbal maintenance of conditioned verbal behavior following "interpretations," "reflections," and social reinforcers. Journal of Personality and Social Psychology, 1971, 20, 112-117.

Subject: One purpose of the present study was to compare the differential reinforcing effects of psychoanalytic-type interpretations, of reflections of a nondirective nature and of mild affirmatory statements in raising the level of s selected response class during acquisition. A second aim was to determine whether the phenomenon of higher order conditioning, or what might be comparable to secondary reinforcement, can be demonstrated within the verbal conditioning paradigm using college students as subjects.

Methods: Each of 64 subjects were seen separately receiving 120 trials. First person pronouns (I or we) were designated as the critical (reinforced) response class, and the remaining pronouns (you, he, she, they) constituted the nonreinforced response class in a sentence completion task. First 30 trials established subjects' operant level for selecting the first person pronoun. Next 60 trials constituted the acquisition phase, the final 30 cards, the extinction phase. One control group received nothing during acquisition. Another control group received the tone only when a first person pronoun was selected. Each of the experimental groups (word: good, fine; interpretation: e.g. "you show a basic mistrust and hostility toward others;" and reflection: e.g. "you feel you offered more than it was worth"--- examples given for interpretation and reflection were in response to "I bid too high for such a prize.") received the appropriate verbal reinforcement paired with the tone during the acquisition phase following a critical response. During extinction, three of these groups continued to receive the tone alone for critical responses.

Results: Psychoanalytic-type interpretations were found to be less effective (though not significantly less effective) than mild affirmatory words or reflections in raising the frequency of the selected response class. The authors hypothesized that interpretive statements may serve as a class of noxious stimuli and hence may have an effect similar to that of mild punishment.

Significant conditioning did occur with each of the three types of verbal reinforcers, but only the experimental groups that received the tone during extinction maintained the frequency of the previously conditioned response, thereby establishing the tone as a secondary reinforcer.

Kessel, P. Control of verbal behavior as a function of social reinforcement, the subject's conception of the interviewer's values relative to his own, and need for social approval; A psychotherapy analogue study. Unpublished doctoral dissertation. Temple University, 1967. Dissertation Abstracts, 1967, 28(3-B), 1198-1199.

Subject: The study investigated the relationship between interpersonal attraction and interpersonal influence. It was hypothesized that subjects who were led to believe that their interviewer had values dissimilar to their own would exhibit less interpersonal attraction for their interviewer and be less responsive to his influence attempts than subjects who were led to believe that their interviewer had values similar to their own. It was also hypothesized that subjects with high need for social approval would respond to influence attempts more than subjects with low need for social approval.

Methods: Subjects were 108 male undergraduate students. Need for social approval was measured with the Marlowe - Crowne Social Desirability Scale and values were assessed with the Allport - Vernon - Lindzey Study of Values. There were two levels of need for approval (high and low) and three levels of attitudinal set (similar, dissimilar, and control). Attitudinal set was induced by a collaborator. This treatment was followed by an interview procedure where subjects were instructed to talk about three topics, one of which was reinforced. Reinforcement consisted of attentive concern and periodic comments. The measure of responsivity to reinforcement was subject's duration of speech on reinforced compared to nonreinforced topics. The three topics were a) Parents and Family, b) Dating and Marriage, and c) School and Work.

Results: Subjects who were led to believe that their interviewer had dissimilar values to their own, rated their interviewer significantly lower on a rating scale than subjects who were led to believe they had similar values and significantly lower than subjects in the control groups. Subjects in the dissimilar groups were significantly less desirous of having their interviewer as a counselor than subjects in the other groups. It was concluded that within the context of the investigation, value dissimilarity reduces interpersonal attraction, but value similarity does not increase it, i.e., it is a necessary but not sufficient condition. Subjects talked significantly longer on reinforced compared to nonreinforced topics, demonstrating the effectiveness of reinforcement in increasing subjects' duration of speech. However, reinforcement was effective only for the group of subjects that reported awareness of the response-reinforcement contingency. Subjects talked significantly more on certain topics than on others, regardless of reinforcement conditions, and there was a significant need for approval x topics interaction. Responsivity to reinforcement was not found to be related to need for approval. When data from aware and unaware subjects were combined, there

was no difference among the three groups (similar, dissimilar, and control) with regard to responsivity to the interviewer's influence attempts. When only data from aware subjects were subjected to analysis, it was found that the similar group was significantly less responsive to reinforcement than the dissimilar group and the weighted average of the dissimilar group and control groups. A significantly greater number of aware subjects came from the similar group. There were fewer aware subjects from the dissimilar and control groups.

Kidd, J. E. The influence of selected variables on the reinforcement rates of educators enrolled in a three-week workshop on behavior modification. Unpublished doctoral dissertation, University of Virginia, 1970.

Subject: The aim was to investigate which factors can influence reinforcement rates of educators and whether a workshop can increase the rates.

Methods: Subjects were 24 elementary educators. The basic pre and post measures of rates of reinforcement provided the dependent measures while predictor variables included pre and post personality variables (Edwards Personality Preference Scale), anxiety levels, knowledge of applied behavior therapy, etc. The study used multiple regression techniques.

Results: The findings of the study showed 1) the workshop participants increased the rate of reinforcement dispensed and 2) personality and anxiety type variables interact with rates of reinforcement dispensed by subjects.

King, C. R. Verbal conditioning and transfer effects in an interview setting. Unpublished doctoral dissertation. Michigan State University, 1968. Dissertation Abstracts, 1969, 29(10-B), 3913.

Subject: The study attempted to condition negative and positive self-references within a series of three 20-minute interviews, using reflection as the verbal reinforcer and to demonstrate transfer of conditioning effects to a battery of five self-evaluative measures (two Semantic Differentials, two Q-Sorts and the IPAI Anxiety Scale) administered before and after the interview.

Methods: 75 subjects were randomly assigned to five experimental and control groups, 15 subjects to a group. Group E_1 was reinforced for positive self-references. Group E_2 was reinforced for negative self-references. Group E_3 was reinforced for both positive and negative self-references. Group C_1 was an interview control group. Finally, Group C_2 was a test-retest, no interview control group.

The self-evaluative test battery was administered immediately before the first interview and immediately following the last interview, except in the case of C_2 control who received the battery in a 3-4 day test-retest interval.

Results: Self-reference data confirmed that conditioning had occurred as predicted. Both positive and negative self-references were shown to be amenable to conditioning employing reflection as the reinforcer.

Only changes on the IPAI Anxiety Scale reached significance. However, individual comparisons among group means for the IPAI data demonstrated that conditioning did not effect tranfer, whereas, being interviewed did.

King, M. L. The effectiveness of social reinforcement on motor performance of Negro preschool children as a function of socio-economic level. Unpublished doctoral dissertation. The University of Mississippi, 1970. Dissertation Abstracts International, 1970, 31(3-B), 1540-1541.

Subject: The study investigated the effects of social reinforcement on the motor performance of lower and middle class Negro preschool children.

Methods: For the lower class and middle class subjects, verbal praise was contingent upon the response least preferred during the baseline period in a two choice size-preference motor task. A noncontingent reinforcement procedure was used with control subjects.

Results: No differential effects of socioeconomic class were shown. Proportion of correct scores was found to be higher in the experimental groups than in the control groups and showed an increase across successive time periods. Scores for the controls exhibited no statistically significant change across the successive time periods.

Knott, P. D. Frustration in relation to primary and conditioned incentive value: Effects on verbal evaluation, selective attention, size estimation, and reward expectancy. Unpublished doctoral dissertation, Vanderbilt University, 1967. Dissertation Abstracts, 1968, 28 (10-B), 4317-4318.

Subject: The purpose of the study was to investigate the effects of frustration on the incentive value of rewards and of salient neutral stimuli associated with the rewards.

Methods: A high expectancy of success in playing a "fishing game" was established for all subjects (8 and 9 year-old children) by introducing varying amounts of money into the fishing game for different groups of experimental subjects. A nonsense syllable was associated with the money. Half of the experimental subjects were frustrated in their attempts to obtain the money, while the remaining experimental subjects were rewarded in their attempts. Two control groups were used for which money was not introduced into the second phase of the fishing game. One of these control groups was frustrated in its attempts to obtain an empty container, while the other control group was rewarded in its attempts.

Results: Relative to rewarded and control subjects, frustrated subjects: a) looked at pictures of money more often, b) overestimated the size of money to a greater extent and c) attributed more positive statements to the syllable associated with reward expectancy task.

The author concluded that the data argues for an "incentive value notion" of frustration, in which the principal hypothesis is that frustration produced a temporary immediate increase in the incentive value of the reward and of a salient neutral stimulus associated with the reward.

Kozma, A. The effects of anxiety, stimulation and isolation on social reinforcer effectiveness. Journal of Experimental Child Psychology, 1969, 8, 1-8.

Subject: The study investigated the effects of social isolation on subsequent social reinforcer effectiveness. Two major predictions offered are as follows: 1) An increase in visual stimulation during isolation will postpone the recurrence of the social isolation effect (SIE) and 2) A longer isolation interval will be required for low test anxious (LA) subjects than for high test anxious (HA) subjects to produce a SIE.

Methods: High and low anxious third grade subjects underwent 0, 3, 6, 12 and 18 minutes of isolation under stimulation and nonstimulation conditions. Following isolation, subjects received social reinforcement for correct responses on a probability matching task. Learning scores (total number of choices of the more frequent event) were analyzed by a 2(anxiety - high and low) x 2(stimulation - posters and no posters) x 5(isolation - 0, 3, 6, 12 and 18 minutes) analysis of variance.

Results: A linear relationship was obtained between length of isolation and reinforcer effectiveness for low anxious subjects. High anxious subjects showed increased susceptability to social reinforcement only after brief and prolonged periods of isolation. Stimulation appeared to delay susceptability to social reinforcement for both low and high anxious subjects.

Kozma, A. Instructional and isolation effects on susceptibility to social reinforcement. Canadian Journal of Behavioral Science, 1971, 3, 388-392.

Subject: The study investigated the relationship among anxiety inducing and anxiety reducing instructions, social isolation and social reinforcer effectiveness. Isolation studies show an increased susceptibility to social reinforcement in isolated subjects. (One advanced hypothesis is that aroused anxiety during isolation is due to anticipated evaluation by a strange experimenter in a test-like situation. A positive evaluation should be effective in reducing anxiety.) The critical question here is whether anxiety-inducing instructions would, either in themselves or in combination with a brief isolation period, lead to increased susceptibility to social reinforcement.

Methods: Subjects, 80 third grade students, received anxiety inducing instructions (they would be required to do a difficult "test" on which many children did poorly) and anxiety reducing (they would be allowed to play an interesting "game"). Groups underwent no or three minute isolation periods, i.e., 2(instructions) x 2(isolation) analysis of variance. Following instructional and isolation procedures, subjects received social reinforcement (e.g., "good," "fine," "very good") for correct responses on a probability matching task (card game - test 1).

Results: a) Anxiety inducing instructions were only effective in increasing social reinforcer effectiveness when combined with brief isolation period. b) Anxiety reducing instructions before isolation prevented the development of the social isolation effect.

Both predictions were supported; findings are consistent with an anxiety interpretation of the social isolation effect.

Krueger, D. Operant group therapy with delinquent boys using therapist's versus peer's reinforcement. Unpublished doctoral dissertation. University of Miami, 1970. Dissertation Abstracts International, 1971, 31(11-B), 6877-6878.

Subject: The purpose of this study was to assess the effects of group therapy with delinquent adolescent males, using operant techniques. The hypotheses were: 1) that reinforcement would increase the frequency of responses of predefined therapy content categories, 2) that the behaviors modified in therapy would generalize to other situations, 3) that peer-administered reinforcement would be more affective than adult-administered reinforcement and 4) that noncontingent reinforcement would be unsuccessful in modifying behavior.

Methods: Eighteen adolescent male delinquents were randomly assigned to three group therapy conditions. In the two treatment conditions, peer-reinforcement (PR) and adult-reinforcement (AR), appropriate predefined verbal responses were immediately reinforced by light flashes which were tallied and the accumulated points could be exchanged at the end of the session for primary reinforcement, such as candy. In the control random-reinforcement (RR) condition noncontingent reinforcement was administered on a time segment basis with no relationship to actual verbal responses. The dependent variables were pre- and post- treatment scores on the Gough Socialization (CPI), the Mini-Mult, subjects' ratings on the Peterson Problem Check List and their rate of verbalization in the predefined response categories.

Results: Subjects in the PR condition had generally higher response rates and a higher total number of points earned than subjects in the other two conditions. Although there were differential results within the various reinforcement content categories, it was found that the PR subjects were the more resistant to extinction, showed the greatest amount of generalization to other behaviors outside of therapy and were better able to delay immediate primary reinforcement for later secondary reinforcement in the form of an off-grounds trip. Subjects in the AR treatment conditions showed their greatest gains in the verbal response categories that seemed to have been most affected by adult influence, generalized less to behaviors outside of therapy and were less resistant to extinction. RR subjects showed minimal gains. There were no significant results with either of the two personality scales for any condition. Problem Check List ratings showed improvements in subjects' behavior significantly more for the PR condition.

The author concludes that the study demonstrated the efficacy of using operant techniques in a group therapy setting with adolescent delinquents, and the enhancing effects of using peers as reinforcers of appropriate prosocial behavior.

Lawler, E. E. & Suttle, J. L. A causal correlational test of the need hierarchy concept. Organizational Behavior and Human Performance, 1972, 7, 265-287.

Subject: To test the validity of the need hierarchy concept using longitudinal quantitative data.

Method: Longitudinal data from 187 managers were collected. All Ss completed the Porter questionnaire to measure need satisfaction and need importance. One group of Ss completed the questionnaire at the beginning of the study and six months later, the other group completed it at the beginning and 12 months later. Used a cross-lagged correlation technique.

Results: Little support for Maslow's hierarchy. Lack of support for the notion that as the satisfaction of a need increases, its importance should decrease. Suggested that needs may be arranged in a two-level hierarchy with the basic biological needs on the bottom level and all other needs on the top level.

Lawrence, E. A. The effect of two classes of verbal reinforcement on the performance of subjects differing in locus of control. Unpublished doctoral dissertation. Syracuse University, 1969. Dissertation Abstracts International, 1970, 30(12-A), 5288-5289.

Subject: The study investigated 1) differences in locus of control for slow learning children of similar developmental levels in special class and regular class programs, and 2) the effect of two types of verbal reinforcement on the performance of special class and regular class children differing in locus of control.

Methods: 62 special class and 118 regular class children of similar "developmental levels" ranging in age from seven to thirteen years were divided into internal and external locus of control groups (median split of distribution from Bialer's Locus of Control Scale). 20 subjects from each of these four groups were presented a two-hole marble dropping task. Two verbal incentive conditions were introduced with one half of each group receiving verbal-praise reinforcement and the other half receiving verbal-correct reinforcement.

Results: The hypothesis that slow learning children in special classes would demonstrate more internal control than children of similar developmental levels in regular classes was not supported. Regular class children were found to be more internally oriented than those in special classes. The other hypothesis that Internal Control (ILC) subjects would demonstrate greater change in performance in the experimental task under verbal-correct reinforcement while External Control (ELC) subjects would demonstrate their greatest change with verbal-praise was also not supported. Verbal-correct reinforcement was found to be more effective with all groups than was verbal-praise.

A significant interaction between class placement, locus of control and incentive conditions was demonstrated. It was suggested that due to their behavior patterns and the particular orientation of classroom programs, ILC subjects in special classes and ELC children in regular grades may be relatively deprived of reinforcement, thus making such reinforcement more effective when offered in an experimental setting.

Lee, G. R. The effects of social reinforcement and some other experimental treatments on the within-interview verbal behavior of counselors. Unpublished doctoral dissertation, University of Minnesota, 1968. Dissertation Abstracts, 1969, 29 (10-A), 3420-3421.

Subject: Techniques and ideas from verbal operant conditioning, expectancy effects in the psychology experiment, and experimenter effects in behavioral research were applied to the training of counselors in interviewing techniques.

Methods: The experiment was conducted in an actual training situation with "real" clients. The basic procedure involved giving counselors social reinforcement via light signals whenever they emitted confrontive and relationship statements as defined by the Hill Interaction Matrix.

A standard design was employed, i.e., operant level (one 45 minute interview), acquisition (four 45 minute interviews) and transfer (one 45 minute interview). A noncontingent reinforcement control was also employed to compare the effects of response contingent reinforcement with effects attributable to other possible factors such as expectancy effects and interviewer-subject attraction. There were three counselors in each group.

Post-interview questionnaires were also administered to experimental counselors and subjects.

Results: Confrontive and relationship statements increased from operant level to acquisition, but were not maintained when reinforcement was withdrawn. This result held for both contingent and noncontingent reinforcement. The effect of noncontingent reinforcement was more pronounced on increases in total responses frequency than an on increases in specific confrontative and relationship statements. It was concluded that noncontingent reinforcement served an energizing rather than a discriminative function.

Questionnaire responses indicated that clients evaluated noncontingent counselors more favorably than contingent counselord during acquisition and transfer, but not in operant level. There were no differences between groups, or within groups between phases on reported awareness of target call responses (confrontative and relationship statements).

Leech, S. and Witte, K. L. Paired-associate learning in elderly adults as related to pacing and incentive conditions. Developmental Psychology, 1971, 5(7), 180.

Subject: This study used a sample of older people who responded to a pair-associate learning task. Past research had demonstrated that older people tend to do poorly on pair-associate tasks because of omission errors.

Methods: The experimenters used tokens (worth money) to reinforce errors of commission and ignored omission errors.

Results: Errors of omission dropped as a function of the reinforcement ($p < .05$) when compared to controls.

Lehrer, P., Schiff, L. and Kris, A. The use of a credit card in a token economy, Journal of Applied Behavior Analysis, 1970, 3, 289-291.

Results: Describes a credit card system used as a means of transaction in a token economy at the adolescent unit of Boston State Hospital. Using a gasoline type credit card, patients earn points for attendance at school, activities, etc., and are charged for lounge priviledges, trips, etc.

Points are tallied each week which delays primary reinforcement until the end of each week, but patients do receive immediate secondary reinforcement in the form of a receipt and the social reinforcement that accompanies the payment transact[illegible].

The more regressed and/or retarded patients who cannot tolerate a week's delay in primary reinforcement are put on an immediate payment plan in which they use their payments receipts as cash. This is done routinely with new patients until they become involved in the activities of the Adolescent Unit.

Leonard, Skipton and Weitz, Joseph. Task enjoyment and task perseverance in relation to task success and self-esteem. Journal of Applied Psychology, 1971, 55, 414-421.

Subject: It was hypothesized that success or failure on a task would be related to enjoyment of that task for individuals having high self-esteem, but not for those having low self-esteem.

Methods: 68 male and 80 female subjects were asked to solve puzzles in a laboratory setting. Three measures of self-esteem were collected before the task. After the second puzzle, subjects rated their enjoyment.

Results: Task enjoyment was significantly related to task success, with low self-esteem subjects enjoying success as much or more than high self-esteem subjects. Self-esteem was minimally related to task enjoyment, contrary to Korman's self-consistency model.

Lepper, M. R. Anxiety and experimenter valence as determinants of social reinforcer effectiveness. Journal of Personality and Social Psychology, 1970, 16(4), 704-709.

Subject: The study investigated the interaction effects of experimenter valence and the subject's anxiety level on social reinforcer effectiveness. In particular, it was predicted that when a child is made anxious in a social reinforcement situation, he will more readily comply with a previously negative (i.e., experiences of isolation, failure, criticism) than a previously positive (i.e., experience of success, praise, play periods) adult, but when a child is not anxious, he will more readily comply with a previously positive adult.

Methods: 40 preschool subjects experienced a thirty minute positive or negative interaction with Experimenter I. One week later, the subject's anxiety level was independently manipulated by films shown to the subject by Experimenter II; and immediately following the films, the subject was tested in a social reinforcement task by Experimenter I. 20 control subjects were tested without prior contact with Experimenter I. There were three measures of reinforcer effectiveness on the Marble-In-The-Hole (MITH) game - 1) persistence, 2) base rate, and 3) rate change.

Results: Results from both rate change ($p < .001$) and persistence ($p < .10$) (approaching significance) measures of reinforcer effectiveness demonstrated the predicted interaction. It was concluded that when a child was anxious and theoretically motivated primarily by considerations of punishment avoidance, the negative valenced experimenter was more effective in eliciting behavior change from the child than the positive valenced experimenter, but when the child was not anxious, and theoretically motivated primarily by considerations of reward seeking, the positively valenced experimenter was the more effective.

Leventhal, H., and Fischer, K. What reinforces in a social reinforcement situation--words or expressions? Journal of Personality and Social Psychology, 1970, 14, 83-94.

Subject: The study sought to determine whether influence in a typical social reinforcement setting is attributable to the "operations" specified by a particular psychological theory (social rewards) or is a result of other more subtle cues in the experimenter's behavior. The study included several important independent variables (a) reinforcement vs. no reinforcement, (b) experimenter with child vs. experimenter separated from child and (c) four different experimenters.

Methods: 96 children, 5-9 years of age served as subjects. Experimenters were 18 year old male college students. Four experimental conditions were as follows: 1) two reinforcement conditions (personal evaluative and informational reinforcements), 2) no reinforcement-experimenter present, 3) no reinforcement-experimenter apart. Thus there were 48 males and 48 females distributed in a 4 (conditions) x 4 (experimenters) x 2 (sex of subject) design. Dependent variables were changes in preference and changes in response rate of the marble-in-the-hole game.

Results: Increases in rate of responding are greatest in the reinforcement conditions, but the increases occur before reinforcement is initiated. Rate increases seemed to be a consequence of changes in the subject's emotional state, which in turn are related to the experimenter's treatment of the child. Preference shifts occur regardless of reinforcement as long as the experimenter remains in the situation. The experimenter's expressive behaviors appear to cause such shifts. A sociable or friendly manner combined with a strong task orientation has the strongest influence in the subject's responding. Although expressive communication plays an important role in changing task behavior, its effectiveness may depend, however, upon subject and experimenter sharing particular conceptions of the teacher's and learner's role in the task.

Lewis, M. Q. and Baker, R. D. Model reinforcement of verbalizations versus actions. Journal of Counseling Psychology, 1971, 18(3), 283-284.

Subject: The study claims that an area of model reinforcement counseling which has been unexplored is the effect of the counselor's reinforcement of the client for actual behaviors rather than for statements of intent. The present study investigates the effects of two videotaped modeling stimuli.

Methods: 1,123 male students were randomly assigned to Treatment 1 (all verbal - videotape which showed a young college student describing his activities in career information to an older friend; the friend provided verbal reinforcements for the student's statements), Treatment 2 (verbal and visual - videotape which had scenes of the student performing the activities described in the first videotape), or the inactive Control Group. Subjects were originally selected because of an expressed interest in "finding out more about majors." One month after the videotapes were shown, the subjects were surveyed as to their knowledge and use of campus educational information sources (mailed questionnaire).

Results: No significant differences in total number of resources named or used were found between treatment groups or between treatment and control groups.

Liberman, R. A behavioral approach to group dynamics. 1. Reinforcement and prompting of cohesiveness in group therapy. Behavior Therapy, 1970, 1, 141-175.

Subject: The purpose of the research was to demonstrate how the group therapist affects group development in the area of mutual recognition, interest, concern, and acceptance (cohesiveness) by reinforcing those behaviors.

Methods: The process and outcomes of two matched therapy groups in an outpatient clinic were studied for nine months. In the experimental group, the therapist was trained to use techniques of social reinforcement to facilitate the development of intermember cohesiveness. In the comparison group, the therapist, who was matched along several traits with the experimental group's therapist used a more conventional, intuitive, group centered approach in dealing with the group.

Patient's group behavior was measured by content analysis codes that assessed cohesiveness on individual and group levels. Interaction Process Analysis (Bales) and Sign Process Analysis (an interpersonal affect code) were used to score on-going group behaviors. A sociometric questionnaire and symptom checklists were administered after each three month interval and at the start of therapy.

Results: Patients in the experimental group showed significantly more cohesiveness and earlier symptomatic improvement than comparison group patients. Patients in the experimental group also developed more independence from the therapist than did the patients in the control group.

Lidman, R. I. Contagion of aggression and the number of reinforcements given by a model to an instigator. Psychonomic Science, 1969, 16, 69-70.

Subject: The purpose of the study was to investigate the effects of allowing a subject observe an aggressive or rewarding model dispense varying amounts of reinforcement to an instigating or non-instigating confederate.

Methods: 48 paid male volunteers observed another subject response instigating or noninstigating opinions for which another subject (model) either aggressed against or rewarded the opinion holder. For half the subjects, the model responded before subject after all opinions. For the other half, model responded before subject only after the first opinion and subject could not hear or see the model's response for the remaining three responses.

Results: There were no significant main effects of observer's responses to one hostile response by a model as opposed to four hostile responses by a model when a confederate gave an instigating opinion. It appears that restraints in the form of internal social inhibitions against aggression were lowered as effectively by one aggressive response by a model as by four aggressive responses by a model.

Linford, A. G. and Duthie, J. H. Spontaneous unintentional conditioning of the experimenter as a reinforcer. Perceptual and Motor Skills, 1970, 31, 518.

Subject: As part of a larger study, one female (trainable mentally retarded) was conditioned to perform a three-item endurance circuit with the use of both primary and social reinforcement (unidentified in article). After ten performance days an attempt was made to demonstrate stimulus control by withdrawing primary reinforcement on Day 11 and social reinforcement on Day 12. Although another subject in the larger study had ceased to respond immediately when reinforcement was withdrawn, this female subject continued to respond at a relatively high rate for three more days. At this point it was suspected that some unintentional conditioning had occurred which was maintaining the high energy cost behavior. The following two hypotheses were tested: 1) the activity itself had become intrinsically reinforcing and 2) the physical presence of the experimenter had become a conditioned reinforcer.

Methods: The subject was introduced to the test room and started on the activity by the experimenter, who then left the room. The subject's performance was monitored on closed circuit television. The experimenter was reintroduced after a few days.

Results: Within two days of being left alone, the subject demonstrated a reversal and the endurance circuit behavior was extinguished. Reintroduction of the experimenter was sufficient to reestablish the behavior. It was concluded that the physical presence of the experimenter had become a conditioned reinforcer.

Locke, E. A., Bryan, J. F. and Kendall, L. M. Goals and intentions as mediators of the effects of monetary incentives on behavior. Journal of Applied Psychology, 1968, 52, 104-121.

Subject: This research hypothesized that incentives such as money should affect action only if and to the extent that they affect the individual's goals and intentions.

Methods: The investigators conducted a series of five experiments.

a) Two experiments varied incentive conditions with productivity being the dependent variable.

b) Three experiments gave subjects the choice as to the difficulty of the tasks they would work on, with the choice being the dependent variable.

Results: Goals and intentions are important determinants of behavior and they are the mechanism by which monetary incentives influence behavior. All-or-none incentives made contingent upon reaching a given level were more effective than the same payment rate made on a piece-rate system.

Lott, A. J., and Lott, B. E. Liked and disliked persons as reinforcing stimuli. Journal of Personality and Social Psychology, 1969, 11, 129-137.

Subject: The study tests the reinforcement properties of liked and disliked persons by presenting the photographs of liked, neutral, or disliked peers to individuals contingent upon their responses to a discrimination learning task. The authors believe that liked persons can be classed as secondary reinforcing stimuli since such stimuli are said to derive their acquired reinforcement properties from their capacity to evoke fractional goal responses which have been conditioned to them. Negative response producing stimuli, conditioned to persons, should not only serve to elicit avoidance behavior but should also impart to such persons the power to act as negative reinforcers or punishers.

Differential acquisition of the response designated as correct by the investigators is predicted to be a function of attraction to the person whose photo is presented as a reinforcer.

Methods: 100 ninth graders worked on a moderately difficult discrimination problem. Five conditions were employed. In four of these conditions a blank card followed an incorrect response while contingent upon a correct one was the word "right" printed on a card; or the photo of a liked, neutral, or disliked peer. For the fifth group, the conditions of the fourth above were reversed so that a photo of a disliked peer followed the incorrect response; and a blank card, the correct one.

Results: Significant differences in performance of subjects on the discrimination task was observed as a function of the nature of the reinforcing stimuli presented to them. Subjects performed in the following order, from best to poorest; those whose correct responses were reinforced with the printed word "right;" with the photo of a liked peer; with a blank card (while incorrect was followed with photo of a disliked peer); with the photo of a neutral peer; and with the photo of a disliked peer.

Marlatt, G. A. Vicarious and direct reinforcement control of verbal behavior in an interview setting. Unpublished doctoral dissertation. Indiana University, 1968. Dissertation Abstracts, 1968, 29(5-B), 1845-1846.

Subject: The purpose of the study was to compare the effects of vicarious (by means of exposing subjects to a verbal model (M)) and direct reinforcement upon observers' behavior in an interview setting.

Methods: 96 subjects (equal number of males and females) were randomly assigned to four possible conditions of vicarious reinforcement (VR) and three possible conditions of direct reinforcement (DR). Of the four conditions of vicarious reinforcement, three groups were exposed to a tape recorded student model (M) of the same sex who described a variety of personal problems. The interviews provided either positive, neutral (nonevaluative), or negative verbal reinforcement to the M. Control subjects (fourth condition) did not receive a M. In the direct reinforcement conditions, interviews gave subjects either positive, neutral, or negative reinforcement for subjects' discussion of problems.

All subjects were given a second nonreinforcement interview, of equal length, a week later. Main dependent variable was problem admission.

Results: All subjects receiving a M gave significantly more problems in the first interview than did control subjects. Vicarious reinforcement and direct reinforcement factors were significant determinants of subject's problem admission, with positive feedback having the most facilitative effect. Of more importance were the following: positive vicarious reinforcement elicited more problems than direct reinforcement, and the most effective combination proved to be positive vicarious reinforcement followed by neutral direct reinforcement, which was significantly higher than the positive vicarious reinforcement/positive direct reinforcement mean.

Sex of interviewer, but not subject, was also a significant determinant of problem admission (i.e., more problems admitted to female interviewers). In the second "extinction" interview, only vicarious reinforcement remained a significant factor in subject performance with identical ordering to the first interview (positive > neutral > negative). For the variable of talk-time, it was found that only vicarious reinforcement produced an effect with the negative condition producing the greatest amount of talk.

Marquis, Kent H. Effects of social reinforcement on health reporting in the household interview. Sociometry, June, 1970, 33(2), 203-215.

Subject: This research attempts to demonstrate that even a small attempt to control the social interaction between interviewer and respondent has large effects on the factual information reported in a household interview survey.

Methods: 429 middle-income, urban, white females were asked to report condition, illness and physician visit information about herself and for another person in her family under two types of interviewing methods. The reinforcing condition used "that's important," "that's very useful," "mmm-hmm," "OK," smiling, leaning forward and hand gestures. The nonreinforcing interviews did not include any of the above reinforcers and were very business-like. Interviewers received one week of training in interviewing techniques and were unaware of the hypotheses of the study.

Results: The socially reinforcing interviewers obtained a significantly ($p < .01$) greater number of reports of symptoms and conditions than the control interviewers.

Martens, R. Internal-external control and social reinforcement effects on motor performance. Research Quarterly, 1971, 42(3), 307-313.

Subject: The basic goal was to see whether internal or external orientations would mediate the effects of verbal praise or reproach on a motor task, i.e., positive versus negative social reinforcement.

Methods: Subjects were 60 male fourth, fifth and sixth graders. Internal and external preferences were determined and 30 high internals and 30 high externals were selected for the study. Subjects then were to roll a ball into a hole on an incline. Positive reinforcement was provided for a good roll for some and negative reinforcement was provided for a bad roll for others. All reinforcements were contingent.

Results: The effects of reinforcement did not interact with either the internal or external locus of control. Skill was not improved or impaired by the intervention.

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Meddock, T. D., Parsons, J. A., Hill, K. T. Effects of an adult's presence and praise on young children's performance. Journal of Experimental Child Psychology, 1971, 12 (2), 197-211.

Subject: The basis of this study was to investigate the effects of the presence of an adult who praised (or did not) on the behaviors of preschool boys and girls.

Methods: Subjects were 32 boys and 32 girls, four years of age. Subjects were to drop marbles through holes. Eight groups of subjects were run. The following three variables were used as factors in a 2 x 2 x 2 analysis of variance:

a) adult present in room--child alone in room (A^{p}-CA)
b) adult gave praise--adult did not react (AR-AnoR)
c) male--female (M-F)

When the adult was outside the room a loudspeaker would pipe in the reinforcement for the appropriate group.

Baseline data were first obtained and a five minute experimental period was selected. The analysis focuses on difference scores between baseline and experimental. The major dependent measure was the rate at which the marbles were dropped.

Results:

1) Children in the presence condition (AR) increased more than the CA ($p < .05$).
2) "Praise" groups (AR) increased more than non-praise (AnoR) groups ($p < .05$).
3) No interaction was observed.
4) Children in the praise condition increased their rates while those in no-praise decreased.

Effects of praise and adult presence were strong and additive.

Milby, J. B., Jr. Modification of extreme social isolation by contingent social reinforcement. Journal of Applied Behavior Analysis, 1970. 3, 149-152.

Subject: To modify the social interaction behavior of two extremely isolated patients by making social reinforcement from staff members ("going in close proximity to, looking at, nodding to, and talking with the paties in an approving manner") contingent on social interaction with other patients or staff members.

Method: Two patients were observed for varying periods of time to collect data prior to the introduction of contingencies. Twelve daily observational samples were conducted, each two minutes long. Two independent observers were used to collect reliability data. Time sample observations were also made of patients not considered to be socially isolated. After baseline data was collected on the two experimental subjects--social approval was made contingent on social interactions.

Results: Inter-observer reliability ranged from 88% - 100%. Patients not considered socially isolated demonstrated 43% and 66% social interaction per twelve daily time samples (percentages refer to percentage of times that social behavior was observed in the total of twelve samples). S-1 increased social interaction from 16% (baseline) to 39% (overall mean frequency) after contingencies were introduced. S-2 increased from 18% to 30% respectively. Study concluded that the efficacy of contingent social reinforcement in modifying extreme social isolation behavior in two psychiatric patients had been demonstrated.

Miller, A. and Hood, R. Awareness, social deprivation and verbal operant conditioning for adults. Psychological Reports, 1970, 26, 893-894.

Subject: The study tested the validity of the relationship between social deprivation and the effectiveness of a verbal reinforcer for adults. Because of the continuing issue about the factors which effect the relationship between awareness and conditioning, awareness of varied aspects of conditioning was measured and its relationship to conditioning was analyzed.

Methods: Deprivation of social interaction constituted each subject being left alone for forty-five minutes. These subjects comprised two groups. Verbal operant conditioning was the second step for the two deprived groups and the first step for the other two groups. Subjects were either reinforced (one deprived and one nondeprived group) or not reinforced (one deprived and one nondeprived) for using I or We in the creation of sentences. An awareness interview after conditioning measured awareness of the correct responses (I or We), the verbal reinforcer (good or mmm-hmm) and the response reinforcement contingency.

Results: Only reinforced subjects conditioned, and of them both aware and unaware subjects conditioned. Social deprivation did not affect conditioning or awareness. Two possible explanations offered for this last finding are as follows: 1) verbal reinforcement for adult learning may be independent of immediate deprivation conditions because it is a generalized reinforcer that functions under many drive conditions, and 2) the particular nature and duration of deprivation used in this study may have been inappropriate.

Mitchell, T. R. and Biglan, A. Instrumentality theories: Current uses in psychology. Psychological Bulletin, 1971, 76, 432-454.

This article reviews the literature on instrumentality theories in psychology, and in particular in three distinct areas of research: verbal conditioning, attitudes, and industrial psychology. The behavior of an individual is in part determined by a) his expectations that the behavior will lead to various outcomes, and b) his evaluation of these outcomes.

In relation to industrial psychology the following studies were mentioned:

a) Georgopoulos, Mahoney and Jones (1957) found that worker productivity could be predicted from the worker's perception of the degree to which productivity is a path to the attainment of personal goals. This relationship was mediated by the degree of attraction to the goals and freedom of action.

b) Porter and Lawler (1968) found that performance is highest for those managers who perceived it as leading to valued outcomes.

c) Vroom (1964) derived a job satisfaction model which said that the worker's satisfaction with his job results from the instrumentality of the job for attaining other outcomes and the valence of those outcomes. $V = f \sum (VI)$. He also developed a job performance model which stated that the force on the individual to exert a given amount of effort is a function of the algebraic sum of the products of the valence of each level of performance and the person's expectation that each level of performance will be attained by that amount of effort. Effort is predicted, not performance, which is considered to be an outcome of the behavior (effort). $F = \sum (EV)$.

d) Lawler and Porter (1967) attempted to predict effort from perceived instrumentalities of 154 managers. Ratings of the importance of seven outcomes were collected: pay, promotion, prestige, security, autonomy, friendship, and opportunity to use skill and abilities. A composite measure of the subjects' expectancies was based on the sum of his ratings of the degree to which a) effort, b) high productivity, and c) good job performance led to the seven outcomes. Their results did not support the instrumentality hypothesis, but the use of a multiple correlation method is not consistent with Vroom's model, and consequently, Mitchell and Biglan feel this caused the lack of support.

e) Galbraith and Cummings (1967) tested Vroom's job performance model while distinguishing between first- and second-level outcomes. Their study did not support Vroom's model. Mitchell and Biglan do not feel that this study supported instrumentality theory, but suggest that a number of factors other than the theory itself caused this failure.

f) Lawler (1968) found support for the causal status of subjects' instrumentalities.

g) Hackman and Porter (1968) used instrumentality theory to predict the effectiveness of 82 telephone service representatives. The instrumentalities were important, but other factors influence job performance.

h) Graen (1969) tested Vroom's job performance and job satisfaction models and examined some factors affecting perceived instrumentality. He found that satisfaction with the work role of job incumbent is a monotonically increasing function of the sum of the products of the valences of role outcomes and the perceived instrumentality of the work role for these outcomes. He concluded that the job satisfaction model is limited to situations where the contingencies between work roles and role outcomes are stated in a concrete manner.

Porter and Lawler suggested that the basic instrumentality model be extended to predict performance and satisfaction. The effort-performance relationship is moderated by ability and role perception variables.

Graen proposed modifications in the models by making the distinction between work roles (first-level outcomes) and role outcomes (second-level outcomes). He also suggested that the focus of the model should be on gains in performance or satisfaction rather than raw scores.

Mitchell and Biglan feel that the instrumentality component suggests two ways in which behavior may be changed:

1) The subjects' perception of the instrumental relations between behavior and its outcomes may be altered. Employees may value organizational rewards but not know which behaviors lead to them.
2) Behavior may be influenced by changing the value of outcomes or organizational rewards.

These theories also suggest that changes in the behavior of the subject result from the expectations of others. Thus, one might also bring about changes in the target subject by changing the expectations of those around him.

The authors conclude that instrumentality theory has been less successful in predicting behavior and satisfaction in organizations than in the attitude and verbal conditioning areas. They suggest that real life phenomena (industrial) are more complex than those predicted in various game and verbal conditioning settings. Also, the situations in industrial settings are less controllable than those in the attitude and verbal conditioning areas.

Moffat, G. H. and Motiff, J. P. Effectiveness of different verbal reinforcement combinations on a discrimination-reversal problem in children. Psychonomic Science, 1970, 21(6), 251-253.

Subject: The literature review introducing the article showed that when subjects were not informed as to the reinforcement procedures operating in the experiments those who are given positive reinforcement for right answers and nothing for wrong answers (Rb), perform more poorly than subjects given knowledge of results only for wrong answers (Wb) and those subjects given reinforcement for both right and wrong answers (RW). A reason for this was proposed by Spence (1964) in which he argues that one may obtain more information from the RW or Wb than the Rb because blanks (i.e., no response by experimenter) tend to be interpreted as "correct" feedback. The general purpose of the study was to compare 4 and 6 year olds on performance of a discrimination tasks under Rb (knowledge of results for right answer only), Wb (knowledge of results for wrong answer only), or WR (knowledge of results for right and wrong answers) conditions. It was hypothesized that performance under Rb condition would be inferior to either Wb or RW, and subjects who were wrong on trial 1 and who were in either WR or WB would do better on subsequent trials than subjects in the Rb conditions.

Methods: Subjects were 60 preschoolers, divided into groups of 5 boys and 5 girls with each group being either 4 or 6 years old. Subjects were run individually with the words "right," "wrong" or blank being used to reinforce the different groups (Wb, Rb, Wr).

Results: 1) Subjects in the Rb did significantly worse than subjects in the WR or Wb conditions ($p < .05$). 2) RW and Wb did not differ significantly. After acquisition of the test was reached (operationalized as no errors after 30 trials) the discrimination task was reversed. The original task involved discriminating hues and disregarding position. In the reversal position became salient and hue irrelevant. Those subjects who had not reached criterion were not given the discrimination reversals. 3) All 20 subjects in RW condition made criterion, but 14/20 of the subjects in the Rb condition did not reach criterion. 18 out of 29 subjects hit criterion. 4) Six year olds reversed better than four year olds in the Wb conditions ($p < .05$). 5) Four year olds reversed faster in the RW than in the Wb conditions ($p < .05$). 6) Six and four year olds did not differ in the RW conditions. 7) For six year olds RW and Wb were not different. 8) Finally hypothesis two was confirmed.

Moss, R. H. and Houts, P. S. Differential effects of the social atmospheres of psychiatric wards.
Moss, R. H. Stanford University, School of Medicine.
Houts, P. S. Pennsylvania State University, College of Medicine.

Subject: The purpose of this study was to assess the differential effects of the social atmospheres of eight psychiatric wards. It was hypothesized that wards with different social atmospheres (climates) were also different in general patient satisfaction and reaction to the ward and on the initiatives which patients perceived themselves as taking on the ward.

Methods: Patients on each of eight psychiatric wards were given the Ward Atmosphere Scale (independent variable)-with twelve sub-scales, the Ward Initiative Scale (dependent variable)-with seven sub-scales and a measure of patients' satisfaction with and general reaction to the ward (dependent variable)-with six questions.

Results: Results demonstrate that ward social atmospheres have different predictable effects on the patients who live within them. A high positive relationship was found between several of the Ward Atmosphere Scale (WAS) sub-scales and general satisfaction, i.e., the greater the average support, affiliation, order, insight, and autonomy patients perceive on a ward, the greater their average general satisfaction. Correlations between WAS and Ward Initiative Scale (WIS) show the following: 1) Wards with a higher emphasis on aggression have patients who perceive themselves as taking fewer affiliative initiatives, more aggressive initiatives, and fewer initiatives related to seeking variety or change; 2) Wards with a higher emphasis on spontaneity and/or autonomy have patients who perceive themselves as taking fewer initiatives to be submissive to the staff; 3) Wards with a higher emphasis on support have patients who perceive themselves as taking more initiatives in revealing themselves to others and fewer initiatives to be submissive to the staff; 4) Wards with a higher emphasis on order have patients who perceive themselves as taking more initiatives related to seeking variety or change and affiliation; and 5) Wards with a higher emphasis on insight have patients who tend to take more aggressive initiatives and fewer initiatives to be submissive to the staff.

The practical implications of how staff members might manipulate social atmosphere to affect patient reactions was discussed.

Moyer, P. C. An investigation of the effects of leader verbal reinforcement of understanding responses in groups of student nurses. Unpublished doctoral dissertation. Arizona State University, 1968. Dissertation Abstracts, 1968, 28(8-A), 3033.

Subject: The purpose of the study was to investigate the effects of an intensive short-term group experience on the number of understanding responses used by nursing students. A second purpose was to study the recall of descriptions or of references to the psychological state-of-being of patients.

Methods: All subjects were volunteers (female college sophomores). There were two groups of five members each for each of the three experimental conditions. One treatment consisted of the presentation of continuous controlling stimuli (CCS), by the leader, designed to increase the probability of subjects making understanding responses. The second treatment that another pair of groups received did not include the presentation of CCS. In these two treatments just identified, the subjects were verbally reinforced by the leader for making understanding responses to other group members. The third treatment groups were actually controls; they received no treatment.

The criterion measures included the following: The Patient-History Memory Test (PHMT) - indicates a count of the number of references to or descriptions of the psychological state-of-being of the patient; The Nurse-Patient Situation Test (NPST) - consists of a patient statement and five responses that a nurse might make to the statement; and Tape Analysis of the Tape Recorded Sessions - indicated the count of the number of understanding responses made by subjects in response to other members of the treatment group.

Results: No significant differences were found between any of the three experimental groups as measured by the PHMT. The CCS plus reinforcement groups differed significantly from the reinforcement only groups and the control groups in the NPST. However, the reinforcement only groups did not differ significantly from the control groups. All of the groups exposed to one of the treatment conditions were found to be significantly different after the initial 90 minutes of treatment. There were no significant differences between the two treatment conditions as measured by the tape analysis.

It was concluded that there did not appear to be any relationship between the subject's awareness of a patient's psychological state-of-being and the subject's use of understanding responses.

Mudd, S. A. Group sanction severity as a function of degree of behavior deviation and relevance of norm. Journal of Personality and Social Psychology, 1968, 8, 258-260.

Subject: The study tested the following hypothesis: the intensity of a group's disapproval of an offensive behavior varies as a function of the interaction between degree of deviation of the behavior from the group norm and the importance to the group of the particular behavior norm involved.

Methods: Conventional (Thurstone) scaling methods were used to develop equal appearing interval scales for the measurement of 1) the severity of sanctions administered by a group, 2) the degree of deviation of given behaviors from the group norm and c) the importance of various classes of behavior to the group.

48 subjects (fraternity men and sorority women in positions of leadership) constituted the experimental sample. 27 behavior deviation items (nine deviation behaviors in each of three norm areas--speech, cleanliness and honesty) were presented to subjects in the form of a test booklet designed to control for order effects. The sanction items were made available on a separate sheet to which subjects could refer. The subjects were instructed to consider separately each of the 27 items describing a deviant behavior and to indicate which of the items from the list of sanctions their group would be most likely to use as an expression of disapproval of each deviation.

Results: Mean sanction severity judged to be appropriate for various degrees of behavior deviation was found to vary linearly as a function of behavior deviation at each of three levels of norm relevance. The equation yeilded was $Y = .32 \log X + .45$ where Y is the slope of the deviation function for a particular norm (e.g., honesty) and X is the relevance of that norm.

Narrol, H. G. and Zimmerman, J. Automated methods for assessing and influencing verbal reports. Technical Report Number 7, Experimental Psychology Section, Institute of Psychiatric Research, Indiana University, School of Medicine, September, 1966.

Subject: Automated procedures were used to study verbal behavior concerning a timing response. Monetary (price rate) reinforcement was contingent on a timimg response and sometimes upon specific verbal reports (automated key presses) of those responses.

Methods: Experiment 1 - The subject was exposed to two conditions each associated with a specific discriminative stimulus. In the first condition, reinforcement was contingent on a correct timing response; in the second, reinforcement was contingent on a correct timing response plus an inaccurate description of the timing response.

Experiment 2 - Subjects were exposed to three different timing requirements. A verbal report had to follow each response. The increased difficulty of this experiment was intended to facilitate the study of accurate reporting and disposition of subjects to differentially report responses.

Results: Experiment 1 - Under both conditions, correct timing responses occurred very often. Timing was usually described accurately when no contingency governed verbal reports. Inaccurate reports increased when under contingency reinforcement.

Experiment 2 - Some subjects were able to accurately report timing when reinforcement was contingent on correct timing only. Specific accuracies or inaccuracies in reporting timing were demonstrated in all subjects when verbal contingencies existed.

Nealey, Stanley M. Determining worker preferences among employee benefit programs. Journal of Applied Psychology, 1964, 48, 7-12.

Subject: This study used the paired-comparison method to measure preferences among employee benefit programs.

Methods: Questionnaires from 1133 male union members comparing six alternative payment and benefit plans using a paired-comparison format were obtained.

The preferences obtained (in order of importance) were:

1) hospital insurance
2) union shop
3) 6% raise
4) pension
5) three week vacation
6) shorter work week

Age appeared to be an active determinant of preference. Physical clerical job type, marital status and number of dependent children were moderately related to preferences. Preference for pay raise was scarcely related to demographic variables.

The preference judgments were highly transitive and allowed the six options to be ranked in an ordinal scale.

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Nealey, S. M. and Goodale, J. G. Worker preferences among time-off benefits and pay. Journal of Applied Psychology, 1967, 51, 357-361.

Subject: This research measured employee preferences among a set of compensation options, all of which involve additional paid time off the job. Also, foremen predictions of preferences were compared to the actual worker preferences.

Methods: 197 U.A.W. members completed paired-comparison questionnaires.

Results: The preferences (in order of importance) were:

	Unit Normal Deviates
extra week of vacation	.612
five Fridays off per year	.313
25 days off every five years	.134
4-day work week of 9 hours 45 minute days	-.122
2% pay increase	-.217
early retirement by accumulating 5 days per year	-.255
5-day work week of 7 hours 50 minutes each	-.465

Foremen predicted worker preferences well ($p = .90$).

Nord, Walter R. Beyond the teaching machine: The neglected area of operant conditioning in the theory and practice of management. Organizational Behavior and Human Performance, 1969, 4, 375-401.

This article reviews the work of Skinner and compares it to McGregor's theory X and theory Y. The author feels that much of Skinner's work does not contradict McGregor's theory, except that his approach does not require acceptance of the "metaphysics" of the humanistic psychologists because he deals specifically with schedules of reinforcement.

He suggests that Skiner's work could be applied in such areas as: training and personnel development; compensation and alternative rewards; supervision and leadership; job design; organizational design; and organizational change.

Fringe benefits such as sick pay, recreation programs, lounges, and work breaks reward the employee for not working. Money that was allocated for these programs should be used to redesign jobs so as to make them more stimulating, and therefore more reinforcing in themselves.

Also, Aldis (1966) suggested a compensation plan employing a variable ratio schedule. If an employee produced above a standard, his name would be placed in a hat from which a winner would be drawn. The reward would be much larger than the usual bonus and would approximate a variable ratio schedule.

Aldis, O. Of pigeons and men. In R. Ulrich, T. Stachnik and J. Mabry, Control of Human Behavior. Glenview, Illinois.: Scott, Foresman, 1966. pp. 218-221.

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Nord, Walter. Improving attendance through rewards. Personnel Administration, November-December, 1970, 37-41.

Subject: The problem with many current compensation and fringe benefit programs in organizations is that rewards are often given for behaviors which do not lead to the realization of organizational goals. Reward systems may be modified to increase the rate of one type of behavior, work attendance, which is necessary to realize organizational goals, while sick leave, recreation rooms and employee lounges reward employees for leaving their places of work.

Methods: (A) A hardware company used a system in which all employees who had perfect attendance for each month would be eligible for prize drawings each month ($25.00 appliances) and also for a major prize every six months (color television).

(B) A large school rewarded teachers $50.00 if they were not absent for an entire semester.

Results: (A) Sick leave payments were reduced by 62% and absenteeism and tardiness were reduced to about one-fourth its prior level. After the initial period, absenteeism and tardiness were somewhat more common but still were less frequent than originally.

(B) The program's second and third years of operation were its most effective. The fourth and fifth years were similar to the first year of operation.

The lottery method employed by the hardware company rewarded behavior more often and on a schedule similar to gambling devices, which should lead to more control of behavior. The system used for teachers had no effect once a teacher has been absent and actually may have led to more absences. The lottery system could offer larger rewards given at shorter intervals.

Olson, G. M., Bibelheimer, D. J. and Stevenson, H. W. Incentive effects and social class in children's probability and discrimination learning. Psychonomic Science, 1967, 9(8), 459-460.

Subject: The study examined the effects of level of incentive (tangible), percentage of reinforcement and social class on children's probability and discrimination learning.

Methods: Subjects were 35 boys and 30 girls from nursery schools of middle class status and 31 boys and 34 girls of lower class status. They were presented with a three-choice problem in which the responses were reinforced on either a 100-0-0 or a 75-25-0 schedule with incentives that differed in value.

Specifically, level and percentage of reinforcement differed across five conditions. Two conditions included discrimination learning tasks with high (DL-H) or low incentive (DL-L). An additional two conditions included 75-25-0 noncontingent probability learning tasks, again with either high (PL-H) or low (PL-L) incentives. The fifth condition involved an incentive contrast (IC). One of the colors (a response possibility) was reinforced with high incentives 75% of the time and low incentives 25% (IC-H), a second color was reinforced with low incentives 75% of the time and high incentives 25% (IC-L), while a third choice was never reinforced.

The high incentives were plastic trinkets (eg. football, bottle, animals, coins) and the low incentives were dried beans.

Results: Higher levels of performance occurred for middle than for lower class subjects and for subjects receiving continuous reinforcement. Incentive effects were found only when the two levels of incentive were present within a single problem for lower class subjects. Low incentive effects found otherwise.

Ostrom, T. and Goldstein, J. H. Reinforcement and prior information in the judgment of others' attitudes. Psychonomic Science, 1970, 19(6), 319-320.

Subject: The study investigates the effect of reinforcement on the perception of the interviewer's attitude. Reinforcement of discrepant attitudinal responses should lead the subject to believe the interviewer personally endorses the discrepant attitude. Attitude should change to the extent that subjects perceive a discrepancy between their initial attitude and that of a likeable interviewer.

Methods: Prior information about the interviewer's attitude and direction of reinforcement were manipulated in a 3 (extremely favorable, extremely unfavorable, or no prior information about attitude) x 2 (positive direction reinforcement, i.e., positive comments reinforced with good or negative direction reinforcement, i.e., negative comments reinforced with good) factorial design. Perception of interviewer's attitude and attitude change were assessed.

Results: Regardless of prior information about interviewer's attitude, subjects saw the interviewer as holding a relatively pro attitude when he reinforced pro responses and a relatively anti attitude when he reinforced anti responses. For both main effects, subjects changed in the direction of their interviewer's attitude. Absence of an interaction suggested that the reinforcement influenced attitude as much when prior information was present as when it was absent.

Paletz, M. D. Prior reinforcement history as an explanation for the effects of sex of subject and experimenter in social reinforcement paradigms. Journal of Genetic Psychology, 1970, 117, 227-238.

Subject: The study investigated the hypothesis that the cross-sex effect is a function, at least in part, of the relative frequency of reinforcement children receive from same-sexed and from opposite-sexed adults. It was predicted that subjects' response frequency would be higher when a previously neutral experimenter was reinforcing or when a previously reinforcing experimenter was neutral than when a previously reinforcing experimenter was reinforcing or when a previously neutral experimenter was neutral.

Methods: Subjects, second and third grade children, of both sexes were exposed to a previously positively reinforcing or previously neutral male or female experimenter in a pretraining experience (figure drawing task and bead stringing task). Subjects were then assigned in equal numbers to either the positive or neutral reinforcing agent for the experimental game (marble-in-the-hole) with the other experimenter leaving the room. For half the subjects the experimenter praised the subjects' responses during the game, and for the other half the experimenter maintained a neutral, nonreinforcing posture.

Results: The prediction offered above was not supported. A significant cross-sex effect was found for the pretraining games, and a smaller, but insignificant, cross-sex effect for the marble game was also found. Over trials a significant trend away from a cross-sex effect and toward a same-sex effect was found.

Pate, J. F. and Broughton, E. Game-playing behavior as a function of incentive. Psychological Reports, 1970, 27, 36.

Subject: The purpose of the study was to assess the correspondence between behavior in two-person zero-sum mixed strategy games and predictions from game theory as a function of incentive.

Methods: Independent groups played for a valueless counter (a paper clip), imaginery money ($100 dollar bills from a Monopoly set) or real money (pennies). In each group, five subjects played 240 trials of the game against an experimenter who used a predetermined sequence of plays, previously randomized in blocks of 24 trials.

Results: Although the differences between the three groups failed to attain significance, the penny group played fewer blacks (subjects could maximize earnings by playing red on every trial) in each block of trials than did the token groups (the paper clip and Monopoly groups combined). The number of units won showed no systematic change across trials and did not differ for the three groups.

Peel, W. C., Jr. The effectiveness of social reinforcers and social punishers with primary psychopaths, secondary psychopaths and normals. Unpublished doctoral dissertation. Memphis State University, 1970. Dissertation Abstracts International, 1971, 31 (9-B), 5633.

Subject: The purpose of the study was to determine if primary or secondary psychopaths were more or less affected by social reinforcers and social punishers than were normal subjects. An additional purpose was to see if experimental pairing of social stimuli with tangible reinforcers and punishers would effectively increase the influence of the social stimuli.

Methods: 40 psychopaths and 40 normals were selected from a population of 647 prison inmates on the basis of their MMPI profiles. Both the psychopaths and the normals were divided into high and low anxiety groups on the basis of the Taylor Manifest Anxiety Scale. All subjects performed three tasks. Tasks 1 and 3 were Taffel type verbal conditioning tasks. Task 2 was a procedure in which one half of the subjects of each of the four groups experienced the presentation of social reinforcement and social punishment paired with the tangible reinforcement and punishement of gain and loss of cigarettes or money.

Results: There were no strong indications of any differences between the psychopathic groups and the normal groups in the initial effectiveness of social reinforcement and punishment. There was some suggestion that primary psychopaths may be somewhat less affected by social punishement and secondary psychopaths somewhat more affected by social punishment than normal subjects. Pairing of social stimuli with tangible rewards and punishers increased the effectiveness of the social stimuli for secondary psychopaths, decreased the effectiveness of the stimuli for high anxious normals, and had no effect for the other groups.

Phillips, J. Performance of father-present and father-absent southern Negro boys on a simple operant task as a function of the race and sex of the experimenter and the type of social reinforcement. Unpublished doctoral dissertation. University of Minnesota, 1966. Dissertation Abstracts, 1967, 28(1-B), 366.

Subject: The study investigated the effects of race and sex of the experimenter and type of social reinforcement on the performance of father-present and father-absent southern Negro boys.

Methods: Two measures of performance on a simple operant task (the marble game) were obtained individually from 240 father-present and father-absent ten year old Negro boys from deprived homes in the urban South. Overall responsiveness and changes in rate of responding after the onset of one of three conditions of social reinforcement (praise, silence or criticism) were related to the race and sex of the adult reinforcing agent.

Results: Results give partial support to predictions based jointly upon the reacting tendency or valence hypothesis (Mc Coy and Zigler, 1965) and theories of male sex-role identification (Johnson, 1963; Parsons and Bales, 1955). As predicted, subjects responded more to Negro than white experimenters and father-absent subjects were more responsive than father-present subjects. The expectation that father-absent subjects assumed to be lacking in identification with the non-competitive Negro male sex-role, would be more responsive to white experimenters and less responsive to Negro experimenters than father-present subjects was supported by results obtained when subjects were criticized for their performance. Contrary to expectation, father-absence was not significantly related to responsiveness to male and female Negro experimenters, which may be due to the high degree of authoritarianism associated with both sex roles in lower class Negro cultures.

Prestholdt, P. H. The effects of social reinforcement and punishment on attitudinal operants. Unpublished doctoral dissertation. University of Minnesota, 1968. Dissertation Abstracts, 1969, 29(10-A), 3670.

Subject: Various limitations and problems associated with the study of attitudes were discussed. An approach based on operant analysis and dealing with attitudes as verbal or overt behavior was suggested. Attitude behavior controlled only by the attitude object is a "real" attitude. However, attitudinal behavior can also be controlled by the presence of another person who punishes or reinforces that behavior. This type of control can be conformity, compliance or demand characteristics. Two important consequences for the acquisition of attitudes are reinforcement in the form of social approval and punishment in the form of social disapproval.

Methods: The experiment was conducted in two sessions. In the first session, children attending a summer camp read cartoons and verbally stated their attitude toward each cartoon. "Correct" attitude statements were either punished or ignored. In session two, the control exerted by the experimenter's presence was eliminated in order to observe the subject's "real" attitude. Using a questionnaire, all subjects expressed their attitude toward three sets of cartoons as follows: the original cartoons, cartoons similar to the original cartoons, and cartoons different from the originals. Subjects then chose a comic book as a gift. One of the possible choices contained cartoons similar to the original cartoons.

Results: Results indicated that social reinforcement increases the frequency of "correct" attitude statements and leads to the acquisition of a "real" attitude. The stimulus control exerted by the attitude object generalized to similar attitude objects. The control by the attitude object was also observed when the attitudinal behavior was choice behavior. Attitudes are thus acquired and persist when attitudinal behavior is socially reinforced.

Although social punishment for "incorrect" attitude statements increased the frequency of "correct" statements, it did not lead to the acquisition of a "real" attitude. A punishment effect was observed, however, for choice behavior. These results suggested that social punishment produces compliant behavior controlled by the social punisher, rather than a "real" attitude.

4(1)(6)(8)

Pritchard, Robert D. Equity theory: A review and critique. Organizational Behavior and Human Performance, 1969, 4, 176-211.

This article reviews research evidence pertinent to equity theory and considers:

1) the nature of inputs and outcomes,
2) the nature of the social comparison process,
3) the conditions leading to equity or inequity and the possible effects of inequity, and
4) the possible responses one may make to reduce a condition of inequity.

The author suggests an alternative solution to equity theory's notion of the social comparison process. He feels that Person uses an internal standard--inequity arises first from the correspondence between Person's own inputs and outcomes. The type of relationship between Person and Other is a secondary determinant of inequity. That is, Person will tend to maximize his outcomes and will generally feel satisfied so long as he is in an impersonal comparison situation with Other. However, if Other is in a direct exchange relationship (intimate) with Person, Person is more likely to experience inequity. The absolute discrepancy between input-outcome ratios and the amount of psychological contact between Person and Other determines inequity. This seems to explain the postulated higher threshold for over-reward than for under-reward. Under-reward will always lead to dissatisfaction due to the maximum gain hypothesis; over-reward will lead to satisfaction to the extent that possible comparison persons are in an impersonal relationship with Person. A person in an impersonal situation will be relatively insensitive to over-reward.

Pritchard, Robert D., Jorgenson, D. O., and Dunnette, M. D. The effects of perceptions of equity and inequity on worker performance and satisfaction, Journal of Applied Psychology, 1972, 56 (1), 75-94.

Subject: This research attempted to clarify and elaborate on several aspects of equity theory.

Methods: Male college students were hired for what they felt was a real job. They were placed in one of six experimental conditions and worked for four hours on each of six successive days. Equity predictions were tested by the experimental induction of inequity and also by naturally-occurring inequity, which was produced by a switch in pay systems.

Results: The results generally support equity theory. Overpayment performance effects occurred when methodological flaws of earlier research were eliminated. Overpayment performance effects were especially strong for naturally occurring inequity. Underpayment performance effects also occurred, again being strongest for naturally-occurring underpayment.

For performance over time, the performance of underpaid subjects relative to equitably paid subjects decreased over time, while there was no change for overpaid subjects.

Subjects in conditions of inequity (both overpaid and underpaid) exhibited lower job satisfaction than equitably paid subjects.

They suggest that there is an interaction between equity and expectancy.

Ransom, R. S. Effects of the age of reinforcing agent and sex of reinforcing agent on social reinforcement. Unpublished doctoral dissertation. University of Denver, 1969. Dissertation Abstracts International, 1970, 31(3-B), 1570.

Subject: The present study was designed to study the effects of the relative age of the reinforcing agent (RA), the sex of the RA, and the sex of the subject on children's learning at three different age levels. It was hypothesized that social reinforcing statements coming from a relatively older peer of the same sex would have a greater effect on learning than those statements from a same-aged, same-sexed peer at the early and middle childhood (fourth and eighth grade) levels than at the late adolescent (twelfth grade) level. Also, it was expected that the effects of social reinforcement coming from opposite-sex Ra's (known as the cross-sex effect) would be greater than that coming from same-sexed RA's at the midchildhood and late adolescent levels than at the early childhood level.

Methods: The design was as follows: sex of the subject (male or female), age of subject (9,13 and 17 years), relative age of the RA (same aged or two years older), sex of the RA (male or female) and reinforcement (after two fixed rates and one test period). The dependent variable was the preference ratio operationally defined as the ratio of the number of "correct" responses to the total number of responses on a marble-dropping task.

Results: The most consistent finding was that social reinforcement did enhance learning to a very significant degree as an independent variable. Only partial support was found for the research hypothesis. Thus, older, same-sexed RA's were more effective than same-aged, same-sexed RA's for two of the predicted four experimental groups. Sixth grade girls serving as RA's were moderately effective on fourth grade girls, while tenth grade boys were significantly effective as RA's on eighth grade boys' learning behavior. As predicted, there was no effect for late adolescent subjects. The cross-sex effect was found, as predicted, for girls at both the midchildhood and late adolescent levels. Thus, tenth grade boys were effective RA's for eighth grade girls and twelfth grade boys were effective RA's for twelfth grade girls. An unexpected finding was that the cross-sex effect was found when fourth grade boys were RA's for fourth grade girls.

Reagor, P. A. Delinquency, socialization and type of social reinforcement. Unpublished doctoral dissertation. University of Illinois at Urbana-Champaign, 1970. Dissertation Abstracts International, 1971, 31(12-B), 7608.

Subject: The study investigates the relative effectiveness of three different types of social reinforcers (praise, attitude agreement and correctness feedback) with two subject populations (delinquent and "normal" high school aged boys) in a quasi-interview verbal conditioning task. A second purpose was to assess the effectiveness of entering high versus low baseline as a completely crossed variable in the analysis of variance of difference scores. The following was hypothesized: 1) Control subjects would respond better to social reinforcement than would delinquents; 2) Attitude agreement reinforcement would produce more learning than praise for the delinquents, whereas, the opposite would occur with the controls; 3) Both praise and attitude agreement would be more effective than correctness feedback for both groups; 4) Control subjects high in socialization would perform better than delinquent subjects low in socialization across all treatment conditions; 5) Few subjects would report awareness of contingencies involved in the task, and the treatment groups would not differ in this regard; and 6) Treating baseline level as a completely crossed variable in the data analysis would result in a substantial reduction in statistical error.

Methods: 48 delinquents and 48 controls were matched for intelligence by a brief verbal intelligence measure. Delinquents filled out two short personality-type socialization questionnaires. Control subjects were rated by their high school counselors as to their school behavior.

Subjects were asked to give memories of events from their childhoods while sitting in a comfortable chair facing away from the experimenter in two sessions, the first involving no reinforcement; the second, selective reinforcement of "non-family" memories during the last 48 trials. An awareness questionnaire was administered at the end of Session II. Subjects were randomly assigned to four adult male experimenters and to treatment conditions.

Results: Data revealed no support for five of the six hypotheses asserted; entering baseline as a crossed variable in the design did, however, result in a substantial reduction in error terms. No difference between subject groups, treatments, or trial blocks were found, nor were any meaningful, significant interactions obtained. Analysis on the basis of socialization yielded, likewise, nonsignificant differences.

In discussion of these results, it was suggested that the task may have been too subjective and complex and/or the magnitude (i.e., length) of the reinforcers employed may have been inappropriate either to the task or to the subjects used.

Reitz, W. E., and McDougall, L. Interest items as positive and negative reinforcements: Effects of social desirability and extremity of endorsement. Psychonomic Science, 1969, 17, 97-98.

Subject: The study investigated the use of interest items from the SVIB as reinforcers in a manner similar to the use of traditional reinforcers. Extremity of endorsement (suggesting strength of reinforcement magnitude), social desirability items, and awareness were also studied relative to the contingency paradigm.

Methods: Social desirability ratings for the first 280 SVIB items were obtained from 72 college men. The 68 highest and lowest so identified as high and low in social desirability were used. Subjects in the experiment were 48 males (introductory psychology classes) who were administered the same 280 items and asked to indicate their extent of liking or disliking for each. Each subject was placed into one cell of n 2 x 2 design depending upon which criteria he met i.e., indicating high or low for desirable or undesirable items or moderate for desirable or undesirable. Subjects were then administered a visual discrimination task for which appropriate reinforcements were administered for correct and incorrect responses.

Results: Significant performance gains were obtained and attributable to extremity of endorsement (high). Social desirability apparently did not influence performance gains. Awareness of reinforcing contingency mediated performance change. It was concluded that interest items, when made appropriately contingent upon a response, result in performance increments in a manner similar to traditional reinforcers.

Richards, R. J. The effects of social deprivation, physiological arousal and need for approval upon verbal conditioning with social and nonsocial reinforcers. Unpublished doctoral dissertation. Southern Illinois University, 1970. Dissertation Abstracts International, 1971, 31(10-A), 5212-5213.

Subject: The study attempts to resolve some previously inconsistent findings concerning the effects of social deprivation upon responses to social reinforcers. Some have stated that increased responding to social reinforcers following isolation can be attributed to increased arousal among isolated subjects, while others suggest that isolation constitutes a condition of social deprivation which intensifies a social drive. Response to nonsocial reinforcers and the importance of need for approval were also studied.

Methods: 20 fifth and 20 sixth grade children were randomly assigned by sex and grade to one of four experimental conditions so that the factors of sex and grade were equally distributed across conditions. Half the subjects were reinforced in a verbal conditioning task with praise from the experimenter, while the remaining half were reinforced with tokens which were later exchanged for pennies. Within each reinforcement condition half the subjects were isolated in a small room during a twelve minute period intervening two blocks of conditioning trials. The remaining subjects were engaged in a structured interview about their interests during this period. Galvanic skin response was used as a physiological index of anxiety. A self-report instrument, Test Anxiety Scale for Children, was used as a measure of anxiety subjects typically experienced during an evaluation task. A Children's Social Desirability Scale was used to measure need for approval.

Results: Comparison of both social and nonsocial reinforcers revealed that even though responding to a designated word class increased from baseline to reinforced trials, the gain was not statistically different from zero. No differences were found in change scores among the four groups on the effects of type of reinforcers and isolation condition upon conditioning. Arousal levels of both isolated and nonisolated groups steadily increased with time during the twelve minute period, but isolated subjects, even though initially less aroused than nonisolated subjects, increased more in arousal than did the nonisolated subjects.

The author concludes that isolation was associated with greater increases in arousal than was nonisolation. The effect of isolation upon responding to social reinforcers is, however, questioned by the present findings.

Robinson, R. W. Attitudinal and behavioral effects of initial attitude, task orientation, and presentation of aversive stimuli. Unpublished doctoral dissertation, Temple University, 1969. Dissertation Abstracts International, 1970, 30 (8-B), 3874.

Subject: Dissonance Theory was contrasted with Incentive Theory in predicting the effect of positive, negative, or neutral consequences upon attitudinally dissonant, consonant, and irrelevant behavior. Dissonance Theory predicted that for each attitude group the failure orientation would lead to greater positive attitude change and more "dissonance reduction" than would a success orientation. Incentive Theory predicted a greater positive attitude change and favorable "biased scanning" under a success orientation.

Methods: Attitudes toward the use of aversive electric shock in human experimentation were assessed among college students under anonymous sponsorship. 108 females comprising three attitude groups (In Favor-Consonance, Opposed-Dissonance, and No Opinion-Irrelevance) voluntarily committed themselves to serving as "experimenters" in a "learning study." They were to put a light signal on for their "subject's" correct responses and to deliver a shock for incorrect responses, the level of shock being up to them. The "subject" (actually a confederate) never received the shock. Task Success, Task Failure and Task Neutrality were arranged.

Results: Although the task instructions were adequately perceived, only In Favor, Success "experimenters" differed significantly from their corresponding no-treatment controls. They maintained their favorable position while other In Favor respondents moved to a less positive position. This would lend slight support to Incentive Theory. Both theories predicted greater attribution of obligation to participate and devaluation of the "subject" under a Failure condition than under a Success condition. The former prediction was supported by a trend and the latter was confirmed. Other measures of "biased scanning" and "dissonance reduction" did not yield significant effects of task. Thus, generally the data did not lend differential support to either theory.

The study also tested the influence of attitude toward shock on attitudinal and behavioral responses. No differences were found among the three attitude groups in the levels of shock used.

Romsted, J. E. Communication effectiveness in young children: An experimental analysis of practice and listener feedback effects. Unpublished doctoral dissertation. Indiana University, 1970. Dissertation Abstracts International, 1971, 31(7-B), 4370.

Subject: The author claims that recent studies in communication effectiveness have attributed the young child's inadequate performance in two-person communication situations to a basic deficiency in role-taking skill. The present study argues that much of the communication inadequacy attributed to a lack of role-taking may be more parsimoniously viewed in terms of verbal production deficit. A primary implication of this proposal is that the child's communication effectiveness can be markedly enhanced - regardless of his age, egocentricity, or role-taking skill - by removal of the verbal response limitations. Presumably, the child's verbal response repertory can be extended directly by prior training, or by varying the conditions of testing to include information listener feedback.

Methods: No methodology reported.

Results: Results indicate that children can be trained to communicate more effectively. Both younger (five and six year olds) and older (eight and nine year olds) children who had special training in verbal production prior to the communication task achieved large increases in usage scores relative to the performance of appropriate control groups.

Rosenbaum, M. A methodological investigation of social reinforcement studies: The effects of fixed-interval and fixed-ratio schedules on time and rate measures. Unpublished doctoral dissertation. University of Illinois, 1969.
Dissertation Abstracts International, 1970, 31(2-B), 938-939.

Subject: The study investigated the differential effects of fixed ratio (FR) and fixed interval (FI) schedules of reinforcement on the child's rate of performance and on the amount of time he was willing to remain at the task. Previous studies tended to show that subjects tend to stay longer at a task when employing a FI schedule. A control condition was included where reinforcement was made contingent on non-focal responses.

Methods: Half of all subjects (2nd and 3rd graders) received instructions similar to studies using rate measures and were allowed to play for eight minutes (Time Limited Condition - TL). The other half of the subjects received No-Time-Limited (NTL) instructions and were allowed to stay at the task as long as they wanted to. Subjects in the TL and NTL conditions were divided into three experimental and two control groups. The experimental groups received reinforcement either on a FI 30 seconds schedule, FR 15 schedule, or a FR schedule tailored to the individual subject's base rate (FR ind). The two controls included a "nonreinforcement" (NR) group and a control group that was differentially reinforced on a FI 30 schedule for other responses (DRO). The TL and NTL conditions were analyzed separately. Each instructional condition had a 5 (reinforcement conditions) x 2 (sex of subject) design.

Results: Two major findings were as follows: 1) Subjects in the DRO condition showed a decrement in performance while subjects in the other four conditions showed response increments. 2) There was an interaction between sex of subject and the type of reinforcement schedule used. Boys had higher rates of response under the FR schedules than the girls, while the girls performed fastest under the FI 30 schedule. It was a new and surprising finding that boys performed faster than girls under ratio schedules with a male experimenter. Subjects on interval schedules stayed longer on the task than those on ratio schedules.

Ryan, T. A. Client perception of counselor effectiveness and achievement of counseling goals. Paper presented at the American Psychological Association Annual Convention, New York, New York, September, 5, 1966.

Subject: To determine the extent to which there was congruence between client perception of counselors' effectiveness and client attainment of counseling goals. This was studied in relation to the suggestion that the accomplishment of a client's goals should be the mark (criterion) of a successful counselor.

Method: Student-counselors (29) conducted small group (4) counseling sessions. Students (clients) defined counseling outcomes they wanted to achieve (effective study behaviors--reviewing assignments, reading, taking notes, making schedules). Students were randomly assigned to one of four treatments.

a) cue-reinforcement counseling - (counselor gave specific cues and verbally reinforced all favorable study habit responses).

b) reinforcement counseling (counselor gave general cue and reinforced all favorable study habit responses).

c) placebo control (counselor handed out booklets on effective study and allowed free discussion).

d) inactive control (included subjects who wanted to participate yet were not in groups a, b, or c).

Verbal reinforcements were "good," "that sounds like a good idea."

Results: Analysis of covariance in post-test study habits data (clients' goals) yielded a significant F ratio. Adjusted means for the two experimental and two control groups revealed highest mean (study habits inventory scale) for cue-reinforcement counseling. Study concluded that reinforcement counseling had demonstrated its effectiveness.

Client perception of counselor effectiveness and client attainment of counseling goals was negatively correlated ($r = -.23$; $p < .05$). Concluded that clients' perceptions of counselor effectiveness cannot be used as criterion of counselor effectiveness.

Safer, M. A. and Kornreich, L. B. The interaction of social class and type of reinforcement in discrimination learning. Psychonomic Science, 1968, 11(6), 206.

Subject: The article reports two experiments that were conducted to replicate an earlier finding (Terrell, Durkin, and Wiese, 1959) that demonstrated that lower class children learn faster when given "concrete" candy reinforcers while middle class children learn faster with "abstract" light reinforcers.

Methods: In the first experiment, 53 children performed a discrimination learning task. Grouped according to social class, they were either assigned to a light or light and candy treatment. Stimuli were pairs of similar geometric figures. The learning criterion was nine correct out of ten consecutive trials. In the second experiment, the apparatus and procedure were identical to the first experiment except that n = 96 and another treatment of just candy being used as a reinforcement was added.

Results: The first experiment generally supported the Terrell, et al, hypothesis.

The second experiment found no significant difference between the two social groups, no significant differences due to the treatments, and no significant correlation between the subject's age and number of trials to criterion.

Samaan , M. K. The differential effects of reinforcement and advice-giving on information-seeking behavior in counseling. Unpublished doctoral dissertation, University of Minnesota, 1970.

Subject: The basic goal was to contrast the effects of verbal reinforcement with advice-giving direct counseling on information seeking. The author used a basic 2(reinforcement - direct counseling) x 2(high self-esteem - low self-esteem). The dependent measure was based on 1) information asked for during interviews and 2) outside interviews.

Methods: The subjects were 50 undergraduates who needed school counseling. Treatment was applied by four counselors in two counseling sessions per subject. Counselors were randomly assigned to subjects and experimental conditions.

Results: The study findings were as follows: 1) Reinforcement counseling had more effect than advice-giving; 2) High and low self-esteem were not significantly different; 3) Both reinforcement and advice groups were significantly more engaged in information-seeking than controls; and 4) In reinforcement counseling, subjects talked more than in the advice-giving groups.

Sarbin, T. R. and Allen, V. L. Increasing participation in a natural group setting: A preliminary report. Psychological Record, 1968, 18, 1-7.

Subject: The study attempted to influence amount of verbalization of group members by manipulating social reinforcement. In particular, it was designed to answer the following questions: 1) Will positive social reinforcement result in increased verbalization for low participating subjects, and will negative social reinforcement result in decreased verbalization for high participating subjects? and 2) Is social reinforcement effective in the realistic setting of a two-hour seminar, meeting over an extended period of time?

Methods: Subjects were selected from nine members of a seminar that met two hours a week for an entire semester. During the first four meetings, operant levels of verbalization rate (participation) were determined for each member of the group. For the remaining eight two-hour sessions, two professors in the seminar gave the two lowest participators positive social reinforcement, and the two highest participators negative social reinforcement. Positive reinforcement included attention, nodding the head, and agreement; negative reinforcement included ignoring, subjects and giving indications of boredom.

Results: Low participators receiving positive reinforcement increased in participation during the first four reinforced sessions and remained at approximately the same level during the last four sessions. High participators receiving negative reinforcement showed a sharp decrease in participation during the first four negative reinforcement sessions, but during the last four sessions participation increased almost to the original operant level.

Schilt, A. F. The effect of verbal reinforcement on attending responses and performance of male student personnel assistants in identifying the affective status of others. Unpublished doctoral dissertation. Arizona State University, 1969. Dissertation Abstracts International, 1970, 30(9-A), 3740.

Subject: The purpose of the study was to determine the effect of a leader's verbal reinforcement upon the attending responses made by male student assistants to other student assistants during the group discussion of case studies of selected problems from men's residence halls, and to ascertain if this reinforcement affected the student assistants' performance in identifying the affective status of others.

Methods: 24 subjects selected from all available of male population of student assistants in the first semester in men's residence halls participated. Treatment consisted of the subjects' participation in a group discussion wherein the group leader verbally reinforced a subject each time that the subject made an attending response to another subject in the group. All subjects were assigned to an experimental or control group. All groups met with the same leader for five weeks, two hours each week.

Criterion measures were 1) the tape count of attending responses, and 2) the Affective Sensitivity Scale (this is an instrument which uses both audio and visual stimuli to obtain a measure of the subject's sensitivity to the affective status of others).

Results: Experimental subjects demonstrated an increase in attending responses not shown in control group. Attending responses increased in an upward linear trend over the five sessions for experimental subjects while trend for the control remained unchanged. The mean score of the experimental subjects on the Affective Sensitivity Scale was considerably higher than the control group.

Schneider, B. and Olsen, L. K. Effort as a correlate of organizational reward system and individual values. Personnel Psychology, 1970 (Autumn), Vol. 23(3), 313-326.

Subject: This study examined the relationship between pay satisfaction and effort in organizations having different extrinsic reward policies.

Methods: Ratings of effort were obtained from nurses in two hospitals in the same city. One hospital had a reward system that was based on effort and performance, while the other hospital's reward system was based on tenure. Reward value was assessed by Porter's Need Satisfaction Questionnaire.

Results: 1) Differences in actual reward policies between organizations result in differential effort, i.e., the hospital that rewarded effort and performance got more effort from nurses than did the hospital that rewarded tenure. 2) Individuals, who most highly value intrinsic rewards in a system rewarding effort, are the ones who work the hardest. No relationship was found between value of pay and effort. 3) Within any given organization it is the interaction of the individual characteristics (level of value) and the organizational characteristics (whether or not effort is rewarded) which result in the observed behavior. Between organizations containing individuals with similar value structures, differences in effort seem to be a function of differences in reward policies.

Schrieber, D. E. and Sloan, S. Incentives: Are they relevant? obsolete? misunderstood? Personnel Administration, 1970 (Jan.), Vol. 33(1), 52-57.

Subject: This article explores: 1) the traditional economic perspective of incentives, 2) a psychological perspective of incentives, and 3) an alternative approach to the "incentive" concept.

Conclusions: 1) The concept of the economic man, underlying many present-day incentive programs, has led to a great deal of experimentation in the design of incentive systems, but has not demonstrated any conclusive quantitative evidence of success. 2) The uncertain results of financial incentive systems has led to a broadened concept of incentives within a participative management framework. The proposed integration of financial and psychological incentives (job enrichment, participative management, etc.) has the following advantages:

a) It is consistent with theories of employee motivation and behavioral science research which emphasized the importance of psychological rewards.

b) It utilizes financial rewards as a symbol of management's commitment to the philosophy that money is a way, but not the only way, to reward desirable performance.

c) It meets all the conditions of an incentive system required for increasing productivity by facilitating the employees' learning process.

d) It optimizes worker participation and understanding, two problem areas associated with the failure of other incentive systems.

Scoresby, A. L. An experimental comparison of confirmed and disconfirmed anticipations for verbal reinforcement in group counseling. Unpublished doctoral dissertation. University of Minnesota, 1969. Dissertation Abstracts International, 1970, 31(3-A), 1023.

Subject: The study attempted to determine if counseling processes confirming clients expectancies and/or consonant with client life style preference for verbal expression were related to subject response to reinforcement and perception of counseling outcomes. The study also sought to determine if counseling verbal expression dissonant with subject preferences and disconfirming their expectancies affected high and low dogmatic subjects differently.

Methods: 147 students were administered a measure of dogmatism and a measure of attitude preference for the verbal expression of feelings in interpersonal situations. Subjects were randomly assigned to four experimental group counseling conditions so that five high and five low dogmatic subjects were in each condition. All subjects viewed one of the video tape films designed to induce expectancies for either affective or rational expression in group counseling. Half of the subjects who preferred affective expression were induced to expect affective expression in counseling while the other half were induced to expect rational expression. Half of the subjects who preferred rational expression were induced to expect affective expression in group counseling.

Subject "personal statements" were verbally reinforced by counselor affective statements (e.g., "I'm pleased" or "You seem to be happy/uncomfortable", etc.). All subjects received a treatment consisting primarily of affective verbal expression.

Results: Results indicate that subject response to verbal reinforcement was increased where subject's verbal expression preference was consonant with counselor verbal expressions. Response to reinforcement may be increased by matching affective counselor and affective client language styles. Treatment language consonant with subject preference for expression or confirming their induced expectancies, did not significantly effect subjects' a) satisfaction with counseling, b) perceived interpersonal effectiveness, or c) acquisitive or learning of treatment terms and concepts. Affective counseling expression dissonant with subject preference, or disconfirming their induced expectancies, did not affect differently high and low dogmatic subjects' perceptions of counseling outcomes.

Scoresby, J. E. Imitative learning and reinforcement of decisions in counseling. Unpublished doctoral dissertation, Arizona State Univeristy, 1969. Dissertation Abstracts International, 1969, 30 (6-A), 2344.

Subject: The purpose of the study was to determine the effects of observing a decision and deliberation model presented via a video tape followed by verbal reinforcement of decision and deliberation statements upon 1) observers' concepts of decision and deliberation, 2) frequency of decision responses, and 3) frequency of deliberation responses emitted in a counseling and noncounseling situation.

Methods: 54 subjects were randomly assigned to three treatment groups: model only, model-reinforcement and control. Subjects in the two experimental groups were exposed to a video tape recording depicting a male student in a counseling interview modeling decision and deliberation behavior. The groups to receive reinforcement were reinforced with the words good, excellent, fine and good idea for making specific decision and deliberation statements. The criteria were ratings on a Semantic Differential (to assess concepts of decision and deliberation), number of decision and deliberation statements emitted by the subjects in counseling interviews and story completion tasks as identified by trained rater.

Results: No significant differences in the concepts of decision and deliberation of the three treatment groups were found immediately or one month after the treatments. In addition, no statistically significant results were reported in the frequency of decision statements emitted in counseling story completion tasks.

Shealy, A. E. Changes in preference values of tokens as a function of pairing with incentives of different preference values and amount of pairing. Unpublished doctoral dissertation, University of South Carolina, 1969. Dissertation Abstracts International, 1970, 30 (11-B), 5243-5244.

Subject: The study attempted to determine if the stability of color preferences could be interfered with by pairing colors of various preference values with incentives of different preference values and to determine if amount of pairing is a predictor of change in preferences.

Methods: Rank order method of scaling was used. Two samples of children were studied; 32 hospitalized retarded children with a mean chronological age of 13.2 and a mean IQ of 54.52 and 32 public school children whose mean chronological age was 6.8.

Results: Results show that the stability of color preferences was not influenced significantly by the operations of matching with incentives of different preference values, nor was amount of matching significance. Public school children showed more stability of color preference than hospitalized retarded children. There was a significant interaction between samples and condition of pairing indicating that there was greater predicted change in the public school children.

Sholley, B. K. An extension of Festinger's effort justification hypothesis to positive and negative verbal reinforcement. Unpublished doctoral dissertation, Ohio University, 1969. Dissertation Abstracts International, 1969, 30 (6-B), 2937-2938.

Subject: The study investigated Festinger's effort justification hypothesis in terms of resistance to extinction after receiving either positive or negative verbal reinforcement. The hypothesis states that when effort is exerted to achieve a reward, and that reward is insufficient, subjects will develop a preference for the behavior because of the effort expended. The hypothesis was offered as an alternate explanation for resistance to extinction when partial reinforcement had occurred in acquisition since the more accepted discrimination hypothesis had not accounted for resistance to extinction when reinforcement was delayed or when greater effort was exerted.

Methods: 48 female subjects participated in each experiment. Experiment I dealt with positive verbal reinforcement. Experiment II dealt with negative verbal reinforcement. Two groups in each experiment were continuously reinforced and two groups were partially reinforced. One group of each of these reinforcement groups needed to exert effort (strain to hear the reinforcement because of white noise).

Results: Reinforcement by trials and reinforcement by effort by trials were shown as significant in an analysis of variance of data in Experiment I. In Experiment II effort by trials was significant.

Siegman, A. W., Blass, T., and Pope, B. Verbal indices of interpersonal imbalance in the interview. Proceedings of the American Psychological Association Convention, 1970, 5 (Pt. 2), 525-526.

Subject: Several previous studies have found that interviewees were more productive, i.e., talked more, when their interviewers disagreed with them than when they agreed with them. The present study attempts to explore this finding with the use of balance theory, i.e., a liked interviewer who disagrees with the subject will create tension in the subject to the point where the subject tries to reduce or resolve it by talking more to restore the original state. It was hypothesized that faster interviewee speech rate and greater interviewee productivity would be associated with imbalanced interviewing conditions, as opposed to balanced ones.

Methods: Subjects who had previously participated in two interview studies and who had come to like or dislike the interviewer were again interviewed by the person. The interviewer either agreed, disagreed or responded in a neutral manner to the subject in exploring various attitudinal items. Dependent variables were speech rate (number of words per second) and productivity (number of words per response).

Results: Subjects' mean speech rate in the imbalanced conditions was significantly higher than in the balanced ones.

With regard to productivity, the index of imbalance resolution, the results were equivocal.

Silverman, I. W. and Waite, S. V. Test anxiety and the effectiveness of social and nonsocial reinforcement in children. Child Development, 1969, 40(1), 307-314.

Subject: The study investigates the effectiveness of social versus nonsocial reinforcement as a function of test anxiety with a probability learning task. The precise prediction tested was that high test anxious children would perform at a higher level under social reinforcement than low test anxious children, with no difference in performance between anxiety groups under nonsocial reinforcement.

Methods: Third and fourth grade children, divided into low and high test anxious groups, performed a probability learning task. The design was a 2(test anxiety level of subject) x 2(reinforcement condition - social approval or nonsocial information feedback) x 2(sex of subject) x 2(sex of experimenter) factorial experiment. There were two experimenters of each sex.

Results: Contrary to prediction, choice of the more frequently reinforced stimulus was not affected by anxiety in interaction with type of reinforcement. Affecting this response measure was reinforcement condition, with social exceeding nonsocial reinforcement; and sex of experimenter in interaction with reinforcement condition, male experimenters being more effective under social reinforcement than female experimenters, with no difference between experimenters as a function of sex under nonsocial reinforcement.

Simpkins, R. E. Verbal performance effected by social maturity and social and material incentives. Unpublished doctoral dissertation. Temple University, 1968. Dissertation Abstracts International, 1969, 30(3-B), 1387.

Subject: It was hypothesized that subjects classified as socially immature, in comparison with those more socially mature, would not perform as well under conditions of verbal incentive, would perform better under conditions of monetary incentives, and would perform more effectively for strong than for weak incentives. It was also hypothesized that immature experimental subjects versus immature unreinforced control subjects would not differ under conditions of verbal incentive, but would differ under conditions of monetary incentive; and that mature experimental subjects would differ under all conditions from mature unreinforced control group.

Methods: Subjects were students from Temple University for whom a maturity score was obtained. The design of the experiment was a 2 x 2 x 2 factorial for level of maturity (mature versus immature), type of incentive (verbal versus monetary) and intensity (strong versus weak).

Results: Verbal incentives failed to modify the behavior of immature subjects. The monetary incentives raised the performance levels of both the immature and more mature subjects. Hypotheses regarding the performance of mature and immature experimental groups relative to their respective control groups were only partially supported. No support was found for the hypothesis that a strong incentive was more effective with immature subjects than mature subjects.

Slocum, John W. Performance and satisfaction: An analysis. Industrial Relations, Volume 9, Number 4, October 1970, 431-436.

Subject: This study reexamines the Porter-Lawler model of performance leading to rewards which may lead to satisfaction, and more specifically, the author investigates how an individual's degree of need satisfaction is related to his job performance as rated by his superiors and peers. He hypothesized that satisfaction of higher order needs is more closely related to performance than satisfaction of lower order needs.

Methods: Data on 200 middle and lower level managers in a Pennsylvania steel mill concerning their job performance and need satisfation were collected. The job performance scale was a multitrait scale containing the traits of technical knowledge, functional knowledge, drive/aggressiveness, reliability, cooperation, and organizing ability. The managers were rated by superiors and peers.

The managers' need satisfaction data were obtained by the questionnaire developed by Porter, which used the discrepancy between "should be" and "is now" to determine need deficiency.

Results: Each of the needs is correlated positively and significantly ($p < .025$) with job performance. Secondly, the prediction that satisfaction of higher order needs is more closely related to performance is only partially supported - only the differences between self actualization and security and self actualization and esteem are significant at the $p < .05$ level.

Solomon, D. and Yaeger, J. Effects of content and intonation on perceptions of verbal reinforcers. Perceptual and Motor Skills, 1969, 28, 319-327.

Subject: The study begins with the assumption that the effect of a verbal reinforcer depends on the individual's perception of the reinforcer's meaning. The research was designed to measure the effects of two aspects of a verbal reinforcer, its content and the intonation with which it is spoken, on college students' perceptions of the reinforcer's meaning.

Methods: College students heard 36 taped verbal evaluations (reinforcers) representing all combinations of three levels of content (positive, neutral and negative) and three of intonation (pleased, indifferent and displeaded). Four different statements for each content level were each repeated once with each of the three intonations.

Reinforcers--Content Categories

Positive	Neutral	Negative
Excellent	Take your time	Not very good
Very good	I see	Pretty bad
I like that	Interesting	Not that way
That's coming along well	That could have been worse	You're not too good at this

Subjects rated each reinforcer on three 5-point scales concerning its meaning as: 1) of comment about performance, 2) a producer of a feeling state in the recipient, and 3) an expression of the speaker's liking or disliking of the recipient.

Results: Content and intonation had significant main effects and interactions for every rating, but their relative effects differed across ratings. Content was strongly dominant for judgments of "objective" meaning, and moderately dominant for judgments about the recipient's feeling, while intonation was dominant for judgments about the speaker's liking for the recipient. No sex differences and only slight age differences were found.

Sorensen, J. A. The effect of reinforcement couseling on dominant behavior in a group setting. Unpublished doctoral dissertation. The University of Nebraska, 1968. Dissertation Abstracts, 1969, 29(12-A), 4338.

Subject: The purpose of the study was to investigate the process and outcomes of group counseling using behavior modification techniques as a primary means to influence the trait of dominance, considered a primary aspect of leadership.

Methods: High school students who volunteered to participate were placed in a counseling sequence, three sessions running concurrently and, the fourth, a follow-up session, taking place one month later.

Results: No statistical results are reported. Simply the following conclusions were offered: 1) Verbal reinforcement counseling may be effectively employed in small group counseling settings and these methods can be learned quickly by prospective counselors; 2) Students not customarily conditioned to engage actively in verbal behavior in small groups can become dominant group members; 3) Students normally dominant in small group settings can be modified to less active roles; and 4) Students can change in their status role as perceived by the group.

Spector, Donald E. The influence of the achievement motive, the affiliation motive and incentive conditions on roleplaying ability in children. Dissertation Abstracts International, October, 1970, 70(19), 124.

Subject: The study investigated the relationship between roleplaying ability and the achievement and affiliation motives.

Methods: 64 sixth grade subjects were selected from 149 potential subjects; 32 top scorers on need for achievement and 32 top scorers on need for affiliation. Roleplaying ability was measured by two standardized instruments - a verbal roleplaying test and a pantomine roleplaying test. Incentive of $5.00 and verbal reinforcement was administered to some groups.

Results: Overall effects of intelligence and incentives were significant. Incentives had a strong effect. Common social motives have no general effect on roleplaying.

Speer, D. C. Concurrent schedules of reinforcement, social reinforcement, and dependent behavior among four year-old children. Unpublished doctoral dissertation. University of Minnesota, 1966. Dissertation Abstracts, 1967, 27 (12-B), 4586-4587.

Subject: The study discusses and reports an experimental investigation of the Gavalas and Briggs concurrent schedules of social reinforcement model of dependency. Dependent behavior is operationally defined by inefficiency and an inappropriate seeking of social stimulation in a task oriented situation. The model postulates that a high rate of dependent behavior relative to competent behavior is generalized by a concurrent schedule programmed so that positive social reinforcement is dispersed at a high rate for dependent responding while such stimuli occur at a low rate following competent acts.

Methods: The task involved assembling simple puzzles. The two means by which puzzle pieces could be acquired operationally defined dependent and competent behavior. Experimental trials were 15 minutes long. Subjects received one instruction, two pretesting, five training, and four extinction trials. Five groups of eight four year-old children were selected from caucasian, upper-class and predominantly broken families. Selection was on the basis of a dependent to competent response ratio between .20 and 5.00. Each group of subjects received praise following dependent and/or competent acts on a different concurrent schedule of reinforcement during training.

Results: Inspection of the response rate data over the three experimental periods strongly suggested that praise did not function as a strong positive reinforcer for most of the experimental groups under the conditions of the study. Statistical analysis of the relationships between the predicted and observed orders of the experimental groups (the five different concurrent schedules of reinforcement) indicated that the model predicted moderately well the competent response rate and total dependent relati to total competent behavior variables but not the simple dependent response ratio variable.

Analysis of variance indicated, however, that none of the mean experimental group differences were actually greater than zero.

During the extinction girls emitted a reliably greater number of dependent acts than did boys. Thus, there was a mild tendency for children praised only for dependent acts to emit more dependent behaviors relative to competent acts than children rewarded for both dependent and competent responding, etc. Children praised only for competent responding tended to emit more competent acts than children praised for both dependent and competent behavior.

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Spence, J. T., and Dunton, M. C. The influence of verbal and nonverbal reinforcement combinations in the discrimination learning of middle- and lower-class preschool children. Child Development, 1967, 38(4), 1177-1186.

Subject: The study was conducted to determine whether socio-economic level would create differential effects in response to verbal and nonverbal reinforcement combinations.

Methods: Subjects were 96 middle-class and 96 lower-class preschool children (mean age = 4.9 years). The task was a discrimination task in which the subject was to pick the "correct" member of each pair of six line drawings of familiar objects. The design constituted a 2 (Social Class: middle vs. lower) x 2 (Verbal Reinforcer: right-wrong vs. Nonverbal Reinforcer: candy or sound) x 3 (Reinforcement Combination: reward-blank, punishment-blank, reward-punishment) analysis of variance. The total number of correct responses on the 15 learning trials was determined for each subject. Means for each of the six treatment groups at both socioeconomic levels were entered into the analysis of variance design.

Results: The candy-reward subjects (i.e., nonverbal reward-blank) of both socioeconomic groups were inferior to subjects given punishment or reward-punishment combinations. The subjects rewarded by "right," particularly lower-class subjects, were also inferior in performance, apparently due to inability to understand the reinforcement procedures. Both socioeconomic groups appeared to perform equally well in the remaining treatment combinations.

Stabler, J. R. Probability learning in children as a function of age, magnitude of incentive, and percentage of reinforcement. Journal of Psychology, 1967, 67(2), 293-297.

Subject: The study investigated some related problems of the effect of incentive on children's probability learning. In particular, the effects of age, magnitude of incentive, and percentage of reinforcement were studied.

Methods: Subjects were 96 male and 96 female children. Twelve groups of 16 subjects each were tested in a five-choice problem in which only one choice yielded reinforcement. The following three variables were combined in a factorial design: age (five-six, nine-ten and fourteen-fifteen years of age), schedule of reinforcement (50% and 80%) and incentive (low [knowledge of the correctness of the response] and high [an M&M candy]).

Results: The performance of subjects differed significantly according to age and to reinforcement schedule. The older children had the highest proportion of correct responses, and there were more correct responses under 80% reinforcement than under 50% reinforcement. There was a significant interaction between age and schedule of reinforcement. The older the child, the greater the proportion of correct responses at the higher percentage of reinforcement.

Sterner, R. T. Effects of social rejection and social reinforcements upon the verbal conditioning of adolescents stratified according to high and low peer social interest. Unpublished doctoral dissertation. The University of Wisconsin, 1970. Dissertation Abstracts International, 1971, 31(10-A), 5217.

Subject: The study assessed differences in the response learning of high school students produced by several social variables. The study was designed to investigate the effects which rejection by peers (Social Rejection) and subsequent positive reinforcement by another person (Social Reinforcement) have upon the verbal conditioning of students who differ in their interest of adolescent peer social activity (Social Interest). It was postulated that student interest in clique, crowd and dating activity interacts with social rejection to produce increased effectiveness of social reinforcers in learning situations (i.e., classroom).

Methods: 57 male adolescent high school student volunteers were assigned to either a high or low social interest group - based upon a median split of scores obtained for a questionnaire devised to measure adolescent interest in peer activities. Subjects were presented information indicative of either rejection or lack of rejection by fellow students. Subsequently, subjects participated in a brief word-association session during which positive verbal and gestural reinforcement (i.e., mmm-hmm plus head nod) was provided or not provided by an experimenter each time the subject said a plural noun. The complete research design was a 2 (Social Interest) x 2 (Social Rejection) x 2 (Social Reinforcement) x 2 (Experimenter) factorial.

Results: Predictions were generally unsupported. Greatest verbal conditioning occurred for students in the high social interest group who were not rejected but received reinforcement. Moreover, rejection and nonrejection combined with reinforcement and nonreinforcement affected the verbal conditioning of students in the high and low social interest groups differently. High social interest students showed enhanced conditioning when provided reinforcement in the absence of rejection; whereas, low social interest subjects demonstrated no differences in conditioning when reinforced following either rejection or nonrejection. Only limited information was obtained from the questionnaire measures. In addition, results for the scholastic performance measures revealed that subjects in the high social interest group demonstrated lower overall performance than subjects in the low social interest group.

The conditioning data were interpreted as incompatible with the arousal or social drive hypothesis, and suggestive that social rejection may decrease the effectiveness of social reinforcement for particular groups of adolescents.

Sternlight, M., Bialer, I. and Deutsch, M. R. Influence of external incentives on motor performance of institutionalized retardates. Journal of Mental Deficiency Research, 1970, 14(2), 149-154.

Subject: Studies which have looked at the relationship of task success and failure feedback on task performance among retardates and normals have found conflicting results. In some cases failure was advantageous while in others it had a debilitating influence on task performance. Perhaps, the authors argue, level of aspiration might provide a critical moderating variable which will piece out the relative effects of praise and censure.

Therefore, the aim was to observe the effects of praise and censure in their interactions with the subjects expressed level of aspiration on a simple motor task.

Methods: A total of 90 males and 90 females who were retarded, aged twelve to twenty, in the IQ range 50-69 in a school for retarded children were used for this study. Pairs of one male and one female each were matched in chronological age and IQ, and the total population was split into the following groups: 1) control, 2) praise given after the first trial, 3) censure after the first trial, 4) aspiration (subjects' estimate of how fast they could repeat the task), 5) praise and aspiration after the first trial, and 6) censure and aspiration after the first trial. The major dependent variable was speed of completion of tasks.

Results: Using the difference between scores from trial 1 and trial 2, the study showed the following: 1) There was no sex differences on performance; 2) Censure was most facilitating to learning; 3) Censure and aspirations were less facilitating than censure; 4) Praise or praise and aspiration was no better than controls; and 5) Aspirations were superior to practice.

Strauss, R. B. The effects of changing a single behavior upon a behavior repertory. Unpublished doctoral dissertation. The University of Tennessee, 1970.

Case Study: This is a case study of a $3\frac{1}{2}$ year old girl. The experimenter removed reinforcement for the subject's talking behavior. Talking decreased and so did two other behaviors considered in this class-playing and laughing/yelling. However, an increase in "mildly disruptive behaviors" followed. This was seen as an attempt to regain the experimenter's attention. The implication the author draws is that the subject usually tried to manipulate her primary behaviors for attention-talking, laughing, yelling. This approach failing, she turned to a secondary set of behaviors (mildly disruptive ones). These interactions of behaviors argues for the symptom substitution paradox of behavior therapy because, the author argues, single behaviors only represent a facet of a configuration of behaviors. Change one and others will compensate, at least in the short run.

Sturm, T. E. The systematic use of positive reinforcement in the treatment of functionally mentally ill adult outpatients. Unpublished doctoral dissertation. University of Minnesota, 1969. Dissertation Abstracts International, 1970, 31(3-B), 1552.

Subject: The purpose of the study was to present five case studies where treatment with positive reinforcement was successful with outpatients.

Case 1 - Verbal behavior was shaped in a mute patient using the opportunity to engage in therapy as a reinforcer.

Case 2 - Money and social rewards were used to help a young man hold a job and support his family.

Case 3 - Driving phobia was treated by reinforcing increasing amounts of driving by controlling the patient's opportunity to engage in therapy.

Case 4 - A psychotic woman was taught to perform more adaptive responses to alleviate her psychosis.

Case 5 - Adaptive behavior was reinforced in chronically depressed patient by her being given the opportunity to eat with her family, sleep in her own bed, and sit in the living room.

Suinn, R. M., Jorgensen, G. T., Stewart, S. T. and Mc Guirk, F. D. Fears as attitudes: Experimental reduction of fear through reinforcement. Journal of Abnormal Psychology, 1971, 78, 272-279.

Subject: The study hypothesized that fears are attitudes and can be changed through selective positive reinforcement of attitudinal statements. Fear was defined behaviorally as an expression of avoidance responses in the presence of the phobic object (harmless snake). It was predicted that subjects in the experimental group would exhibit a significant increase in approach behavior toward the phobic object and would express a significant decrease in subjective level of fear.

Methods: 200 undergraduate females in introduction psychology courses were given a 122-item Fear Survey Schedule. 76 subjects were selected based on their response to questions concerning fear of snakes. They were randomly assigned to one of four treatment groups (one experimental and three control groups). The experimental and control groups were seen for five sessions. The controls dealt with nonreinforcement of relevant materials, reinforcement, and nonreinforcement of irrelevant materials, i.e., the task.

Results: There was a significant decrease in fear for the experimental group (i.e., approach behavior increased). Yet this same group showed no significant decrease in its expressed fear on a questionnaire. Three possible interpretations of this finding were offered as follows: a) Approach behaviors are independent of expressed attitudes; b) Approach change follows behavioral change in time; and c) Based on Rokeach's two-part analysis of attitudes, attitudes are composed of two factors - one associated with a specific object (that which was changed in the present study) and the other associated with a general situation (unchanged in the present study).

No significant changes were found in the fears of the control groups. Support was offered to the belief that fears may be conceptualized as attitudes.

Swingle, P. G. and Coady, H. V. Social class, age and the nature of the incentive in children's lever-pressing performance. Canadian Journal of Psychology, 1969, 23(1), 41-48.

Subject: The present study compared the effectiveness of money and verbal incentive ("good") upon the performance of middle class and lower class children of three age groups on a simple lever-pressing task. Parents of middle class children place greater emphasis on learning for learning's sake than do parents of lower class children.

Methods: Middle and lower class children of six, ten and fifteen years of age lever-pressed for two minutes as practice, followed by a five minute session reinforced on a fixed-interval, thirty second schedule with money, a verbalism ("good"), both money plus "good", or nothing.

Results: Aside from the age effect, which might be expected (i.e. older children respond more rapidly), the most marked effect shown is the gradual separation of the performance levels of lower class and middle class children with age. Results indicate that middle class sensitivity to verbal incentive and lower class sensitivity to monetary incentive become pronounced as the child grows older since no difference between lower and middle class children were found for the youngest subjects. The data also suggest that sensitivity to the reinforcing properties inherent in a task does not develop as rapidly in lower class children as in middle class children.

Tang, K. S. Inducing achievement behavior through a planned group counseling program. Unpublished doctoral dissertation, University of Hawaii, 1970. Dissertation Abstracts International, 1971, 31 (8-A), 3888.

Subject: The study investigated the effectiveness of planned group reinforcement counseling in improving the subject's (1) motivation to achieve, (2) study habits and skills, (3) grade-point average, and (4) school attendance.

Methods: Male subjects whose grade point averages were below their predicted average were randomly assigned to the following three groups: experimental group (subjects who received planned group reinforcement counseling), the aware comparison group (subjects who were informed of their academic potential but declined to participate in the group counseling program), the unaware control group (subjects who were neither informed of their academic potential nor invited to attend the group counseling program).

The counselor in the group reinforcement condition administered verbal reinforcement (praise, agreement, reflection of the subject's statement, uh-hum, nod, forward posture, or smile) contingent on the production of achievement-oriented responses made by the subjects (verbal utterances or statements expressing a favorable attitude toward further education, improved academic performance, effective study habits and skills, and improved school attendance).

Results: Experimental group performed significantly better than either the aware or unaware control groups in the criterion measures of motivation to achieve and effective study habits and skills. The experimental group was superior to the unaware control group, but not to the aware control group performance (grade point average). There were no significant differences among the three groups on the school attendance criterion. There were no significant differences between the aware and unaware control groups on any of the criteria.

Tedeschi, J. T. and Levy, T. M. Task-relevant information, social reinforcement, and race as factors affecting performance. Canadian Journal of Behavioral Science, 1971, 3(2), 148-155.

Subject: Data was presented which suggests that task-related variables may affect the effectiveness of social reinforcers, viz., the task must not possess high intrinsic interest if the performance enhancing effects of social reinforcement are to be maximized. It was hypothesized in the present study that lower class blacks, who have been found to have an external control orientation to their environment, would be more responsive to social reinforcements in a skill task than in a chance task situation. Conversely, it was expected that middle class whites, who have been shown typically to maintain internal control orientations, would be more responsive to social reinforcements in a chance task than in a skill task situation. These predictions were based on other data presented which demonstrated that those who maintain an expectancy that they control their own reinforcements perform better in skill task situations, while individuals who maintain an expectancy that they do not control their own reinforcements perform better in chance situations.

Methods: A total of 48 male fifth and sixth graders, 24 lower class blacks and 24 middle class whites, were assigned to social reinforcement and control conditions and performed either skill or chance tasks. The task was actually a Prisoner's Dilemma game matrix where the subjects were either given the rules (skill) or not (chance).

Results: Results supported the hypotheses. White subjects responded to the social reinforcement manipulation when participating in the chance task, in which relevant information was absent and no meaningful rules could be discovered which would lead to efficient strategies and increased winnings. However, white subjects who were provided with the game rules in the skill task condition and could discover winning strategies through the utilization of the task-relevant information, disregarded the social reinforcement provided by the experimenter.

Black subjects, on the other hand, manifested a pattern of behavior just the opposite. The black subjects responded to the social reinforcement in the skill condition but not in the chance condition.

Tighe, Thomas J. and Rogers, Elliott. Breaking the cigarette habit: effects of a technique involving threatened loss of money. Paper presented at the American Psychological Association, September, 1967.

Subject: This study describes a technique for establishing a continuous hazard which is constantly presented to the subject during the time he is not actually in a treatment situation.

Methods: Each participant gave $50.00 and incurred immediate loss if he used tobacco during the program (three months). Successive periods of abstinence were immediately rewarded by return of a portion of the money as follows: two days - $10.00, two weeks - $10.00, etc.

Results: 84% of the subjects completed the three to four month abstinence period. However, a long-term follow up reflected a 37.5% success rate.

Tosi, D. J., Upshaw, K., Lande, A. and Waldron, M. A. Group counseling with nonverbalizing elementary students: Differential effects of Premack and social reinforcement techniques. Journal of Counseling Psychology, 1971, 18(5), 437-440.

Subject: The basic idea was to contrast the Premack procedures (if you do x, y will follow) to social reinforcement in increasing verbalization.

Methods: Subjects were 24 "reticent" sixth and seventh graders. The dependent measure was the number of voluntary class-related verbalizations by each subject. Base rate of class-related verbalizations were noted for each subject and then subjects were assigned to one of four treatments as follows: a) social reinforcement, b) Premack, c) teacher expectation, and d) control.

The treatments consisted of counselors talking to subjects in the social reinforcement and Premack groups on an individual basis for one half hour on each of four days. In the social reinforcement group, verbalizations were praised. In the Premack, five minutes of talk was rewarded with twenty-five minutes of play. On each subsequent session, the play time was decreased. Teacher expectation groups and control groups saw a film and discussed it.

The analysis was a 3(counselors) x 4(treatments) analysis of variance.

Results: Findings of the study were as follows: 1) Main effects for counselors and treatments ($p < .02$) were found; 2) Social reinforcement was superior to control ($p < .01$) and to teacher expectation ($p < .01$) groups; and 3) Premack did not differ from control or teacher expectation groups.

Tramontana, J. The relative effectiveness of social and edible rewards as a function of intellectual level and socioeconomic class. Unpublished doctoral dissertation. The University of Mississippi, 1971, 32(1-B), 572-573.

Subject: The relative effectiveness of social rewards, edible rewards, and a no consequence condition was studied by means of a balanced design in which 36 middle-class and 36 lower-class Caucasian children performed under each of three reward conditions.

Methods: Within each of the two socioeconomic classes identified above, the subjects were further divided according to intellectual level into three groups (average, mildly retarded, severely retarded). Analysis of variance and posterior tests of statistical significance were conducted on the marble-dropping task data.

Results: Social rewards were not significantly less effective for retarded subjects than for average subjects. Praise had less reinforcing value than did candy on the performance of the severely retarded subjects, but the difference dissipated as intellectual level increased. Candy was the more effective reinforcer regardless of intellectual level. There were no differential reward effects related to socioeconomic class membership.

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Turner, J. L., Foa, E. B., and Foa, V. G. Interpersonal reinforcers: Classification, interrelationships, and some differential properties. Journal of Personality and Social Psychology, 1971, 19, 168-180.

Subject: The relationships of six classes of interpersonal reinforcers to one another were studied relative to their position on two conceptual dimensions. Love, status, information, money, goods and services were ordered relative to particularism and concreteness. Particularism refers to the extent to which the value of the resource is influenced by the particular person who delivers it. In general, this dimension ranges from love, the most particularistic resource, to money, the least particularistic one. Concreteness ranges from concrete to symbolic specifying the form or type of expression characteristic of the various resources.

		Concreteness	
		more	less
Particularism	more	love	
		services	status
		goods	information
	less	money	

The perceived similarity of reinforcers, their exchange and their structural invariance were studied in three separate experiments.

Methods: In the first study having to do with perceptual-cognitive differentiation of the six resource classes, subjects received a series of messages each representing a particular resource class. Their task was to return, from a prearranged array of resource messages, the message most similar, as well as the one most dissimilar to each resource message received, subjects were denied the option of returning messages from the same resource class to which the message received belonged.

In the second study interested in the exchange of the reinforcers, subjects were presented with six situations, in each of which he gives a certain resource to another person. Each situation is followed by 15 pairs of items, where each item in the pair belongs to a different resource class. Since there are six classes of resources, the 15 pairs allow for the combination of each resource with every other one. In each pair the resource is represented by a different item, so that there are five items for each class. The subject was instructed to choose in each pair the item which he preferred in exchange for what he had given.

In the third study it was assumed that resources proximal in the order will correlate higher than distal ones and that the correlation pattern will not change across exchange situations. Each statement pertaining to a particular class of resources was presented separately, and the subject was asked to rate it on a five point scale, ranging from

highly desirable to not at all desirable. For each resource, three statements were rated. The score on each resource was obtained by adding the points of the three statements pertaining to it. This procedure was repeated for the six stimulus situations i.e., for each resource given by the subject to the hypothetical person (as in the previous exchange experiment). Scores were intercorrelated.

Results: The results supported the order by showing that a) reinforcers proximal in the order are perceived as similar and are substituted for one another more than the distal ones, b) for each resource given there is one resource which is most frequently chosen for exchange. The probability of choosing other resources is inversely related to their distance from the most preferred one, and c) the intercorrelation pattern of resources is invariant across exchange situations.

Ullrich, M. F. The effect of expectancy on vocational counseling. Unpublished doctoral dissertation. Southern Illinois University, 1969. Dissertation Abstracts International, 1970, 30(12-B), 5704.

Subject: The study investigated the effect of expectancy about reinforcement in vocational counseling. It was hypothesized that clients expecting intervention and reinforcement from a counselor would make little change in certainty of and satisfaction with their vocational choice when counseled by a nondirective vocational counselor. It was also hypothesized that clients not expecting intervention and reinforcement from a counselor would make a significant change in certainty of and satisfaction with their vocational choice when counseled by a nondirective vocational counselor.

Methods: Clients were grouped based on their scores on Rotter's Internal-External Control Scale. Along with that generalized measure of expectancy, a test with six questions directly measuring expectancy about counseling was given. All subjects were counseled by a nondirective counselor assumed not to reinforce clients. Criterion were two questions concerning satisfaction and certainty of vocational choice.

Results: It was found that counseled clients compared with non-counseled control clients became more certain of (but not more satisfied with) their vocational choice after counseling.

The major hypotheses were rejected. Clients' expectations about reinforcement and intervention from counselors did not affect the clients' certainty or satisfaction with vocational choice after counseling.

Unikel, I. P. and Strain, G. S. Type of reinforcement and generality in verbal operant conditioning. Psychological Reports, 1971, 28 (2), 495-500.

Subject: The general purpose was to determine any qualitative differences in learning by using social approval (good) or concreteness (right) reinforcement upon verbal operant conditioning.

Methods: Subjects were 28 male and 30 female undergraduate students. Subjects were assigned to one of the three conditions (right, good, or no reinforcement). A series of paired statements were presented to subjects whose task involved reading the one statement of the pair which "would be of interest to psychologists." The pair of statements represented either a description ("patient does not attend parties") or an interpretive one ("patient is introverted"). The first 14 statements were not reinforced in any group. The experimenter then reinforced the least preferred choice by subject (either interpretative or descriptive by using the word good for group 1, correct for group 2, or a no reinforcement control group). After 32 such trials, 14 extinction trials followed.

Results: 1) In acquisition, "good" and "correct" groups were identical and superior to control ($p < .001$). During the extinction phase a different experimenter ran the study for one half of each group and the same experimenter ran the other half of each group.
2) Subjects receiving "correct" reinforcement showed no differences in extinction whether the same or different experimenter ran them.
3) Subjects in the "good" reinforcement extinguished more quickly when the experimenter was changed than when he was not ($p < .05$).
4) Change in experimenter did not affect the control.

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Valverde, H. H. Effects of confirmation peeking and response mode on programmed instruction. Aerospace Medical Research Laboratories, Aerospace Medical Division, Air Force Systems Command, Wright Patterson Air Force Base, Ohio. Paper presented at the National Society for Programmed Instruction Convention, San Antonio, Texas, April 18, 1968.

Subject: This study examined the effects of peeking on programmed instruction. The following hypotheses were tested: 1) devices designed to prevent peeking do not increase the effectiveness of programmed instruction; 2) overt responding does not increase the effectiveness of programmed instruction; and 3) covert responding saves time.

Methods: Subjects were pilot trainees and the program in this study was on radar orientation.

Results: Using a basic "t" test approach (covert versus overt), the first hypothesis was accepted with t's generally < 1.0, i.e., peeking did not reduce learning. The other two hypotheses were not supported.

Wachorwiak, D. G. Model-reinforcement counseling with internally and externally controlled college males. Unpublished doctoral dissertation. Southern Illinois University, 1970. Dissertation Abstracts International, 1971, 31(10-B), 6248.

Subject: The study investigated the effectiveness of model-reinforcement counseling with male college students who were undecided as to choice of major. The technique used was to have the client listen to a tape recorded client being reinforced (via verbal indications of approval) by a counselor for making certain classes of statements. Following the tape recording, the client himself is systematically rewarded for emiting the same types of statements. A comparison to a "traditional" more nondirective approach to vocational counseling was also made. It was hypothesized that the effectiveness of these techniques would vary depending on the degree to which subjects were internally versus externally controlled. A review of the relevant literature pointed to the prediction that model-reinforcement should be more effective with externals (Rotter's Internal-External Control Scale), while the traditional approach should prove better with internals.

Methods: 60 male subjects who rated themselves as low in certainty of and satisfaction with their choice of major and had also indicated that they would like to speak to a counselor were divided into three treatment conditions. Model-reinforcement counseling, traditional counseling, and a control condition. Half of the subjects in each condition were externals and half internals. Subsequent to counseling, ratings of certainty as to choice of major, satisfaction with choice of major, satisfaction with counseling, along with several other criterion measures were analyzed.

Results: Very general, ambiguous results are reported as follows: Vocational counseling can be effectively employed with solicited male students; and both model-reinforcement counseling and traditional counseling are viable techniques which can produce diametric and lasting changes in certain variables. Moreover, with certain clients and counseling goals, model-reinforcement counseling would appear to be the method of choice. It would seem, however, that the Internal-External Scale is not, at least at the present time, an appropriate tool for predicting counseling outcome. On the other hand, the results suggest that other personality characteristics such as self-confidence, extraversion, and "masculine" interests may be predictive of counseling outcomes.

Wandzek, F. P. Effects of positive verbal reinforcements on interest selections. Psychological Reports, 1969, 24(2), 407-412.

Subject: The general goal of this study was to determine if there are any long term effects of social reinforcement and also whether this class of reinforcement was powerful enough to change interest selections.

Methods: Subjects were 151 white female undergraduates. The design made use of three control and three experimental groups. A pretest on interest selections was administered to the entire sample. Each experimental and control subject was given two interviews with a counselor. The Oliver Interest Inventory was typed so that one pair of interest statements was placed on a card. One of the pair of statements was designated as experimentally correct and the other incorrect, i.e., the counselor verbally praised a choice defined as experimentally correct for the experimental groups and remained silent for the control group. Finally, several weeks later (ranging from 3 to 7 weeks later), the interest selection of subjects was assessed (retest). A posttest was given immediately following the second interview.

Results: Experimental subjects tended to express increasingly more correct choices from pretest to posttest to retest. This was not found with controls and all was not significant.

Only one experimental group showed any difference ($p < .05$) between pretest and posttests. This effect disappeared (statistically) when the retest was taken. However, the data shows that some experimental subjects did maintain more correct styles while many fewer controls did. This finding implies that the verbal conditioning of interests may be differentially effective. The author concludes that if a subject needs and wants help, he may be more attentive and so more discriminating in perceiving cues elicited by counselors and also predisposed to manipulations by the counselors.

Warner, R. W., Jr. Alienated students: Six months after receiving behavioral group counseling. Journal of Counseling Psychology, 1971, 18, 426-430.

Subject: The study investigates the effects of model-reinforcement and verbal-reinforcement group counseling on the overt behavior of alienated students six months after counseling was terminated. An earlier study had demonstrated that the behavioral counseling did reduce the subject's feelings of alienation. The present study hypothesized that behavioral counseling would produce differences in overt behavior of subjects when compared to controls.

Methods: 180 junior high school students who scored one standard deviation above the mean on a scale of alienation developed by Dean (1961) were randomly assigned to one of four groups: model reinforcement, verbal reinforcement, placebo, and control. The verbal reinforcement group had a counselor who reinforced statements made by the subjects which suggested positive attitudes toward their position in the social structure. One male and one female peer model participated in the model reinforcement group. Placebo group was a control for the Hawthorne effect. Teachers of the subjects rated their behaviors on the Teachers' Behavior Rating Scale (fifteen behaviorally defined scales, each one ranging in possible values from one to five). The sum of a student's ratings on all fifteen scales constituted his adjustment score.

Results: The two groups of students who participated in either the model-reinforcement or the verbal-reinforcement group counseling were rated by their teachers as exhibiting more appropriate behavior than students who participated in the placebo group counseling or who received no group counseling.

Ward, W. D., Day, C. R. and Hamlin, R. L. Perceived similarity to parents as related to responsivity to social reinforcement. Perceptual and Motor Skills, 1969, 29, 951-957.

Subject: The purpose of the study was to test the hypothesis that perceived similarity to parents is associated with one's responsivity to social reinforcement. The specific rationale for considering that these two variables would be related was based upon the expectancy that they would both be associated with the tendency to imitate parental behavior, i.e., the more the responsivity to social reinforcement, the more the imitation, the more the perceived similarity.

Methods: 31 male college students were given Kelly's Role Construct Repertory Test and a verbal conditioning procedure involving five trials of twenty-four presentations each. During the first trial, the experimenter made no response to subject choices in order to establish an operant level for the pronouns used in the task. For the second and third trials, the experimenter responded with "good" each time the subject used one of the two low operant pronouns. On trials four and five, the contingency was reversed and the experimenter reinforced the first trial high operants. The procedure provided two indices of responsivity to social reinforcement, the increase in the use of low operants from trials one and three and the reversal of this trend from trials three to five.

Results: The results demonstrated a negative relationship. There was an overall tendency for those classified as low in perceived similarity to parents to be higher in responsivity. Although there were no differences in conditionability between subjects low and high in perceived similarity to father or between subjects low and high in perceived similarity to mother, when the scores for perceived similarity to mother and father were combined, the negative relationship was clear cut.

Weinberg, R. A. The effects of different types of reinforcement in training a reflective conceptual tempo. Unpublished doctoral dissertation. University of Minnesota, 1968. Dissertation Abstracts, 1969, 29(8-A), 2578-2579.

Subject: The study investigated the use of positive reinforcement on boys ranging from reflective to impulsive in getting them to increase latency of response to each training trial of the experiment.

Methods: 166 fourth grade boys were identified as reflective, middle, or impulsive. 120 of them were then seen individually in a 20-45 minute training session. Ten subjects from each classification group were assigned to one of four training conditions, all of which were designed to increase the subjects' latency of response to seventeen match-to-sample (complex geometric designs) tasks that the subject was told required speed and accuracy for positive reinforcement. Actually, the experimenter reinforced each subject solely on the basis of his response latency to each training trial. The four treatment conditions were as follows: 1) Control Condition - light reinforcement only (no specific incentive); 2) Social Reinforcement Condition - light reinforcement plus verbal approval (incentive to please the experimenter); 3) Mastery-Achievement Reinforcement Condition - light reinforcement plus points (incentive to compare performance skill with that of other fourth grade boys); and 4) Tangible Reinforcement Condition - light reinforcement plus poker chips exchangeable for preselected toys (incentive to win the first prize choice).

Results: All training procedures were highly successful in getting subjects to take more time before responding to training items across trials. There were no significant differences between treatment conditions in affecting impulsive, middle and reflective subjects' training performance. It was observed that, except for the achievement situation, all treatment conditions produced greater latency changes in reflectives than in impulsives or middles during training.

Weiner, E. A. Comparison of direct and indirect reinforcement on performance of kindergarten children. Unpublished doctoral dissertation, Purdue University, 1970.

The author hypothesized that direct reinforcement of one child in a dyad or two children in a group of four would be indirectly reinforcing to the children but in an opposite fashion. That is, if a child was positively directly reinforced, others would view this as a personal negative reinforcer. None of the hypotheses were supported.

Weinstein, L. Magnitude of incentive contrast as a function of amount of verbal reward change. Psychonomic Science, 1970, 21(2), 65-66.

Subject: The basic goal was to study negative contrast effects as a function of reward decrement among human subjects. Two experiments are reported.

Experiment I

Subject: The magnitude of negative contrasts as a function of decrement in rewards.

Methods: Subjects were 17 male and 18 female undergraduate students. Five groups of subjects were randomly selected. Subjects were to do 20 mental multiplications with each one consisting of a trial. Answers had to be furnished in under 60 seconds. For 15 problems each group received one of the following incentives: a) no points, b) 5 points after problems 1, 3, 4, 6, 9, 10, 12, 14, 17 and 19, c) 10 points for a right answer, d) 20 points and e) 40 points. On the 16th trial all reinforcements were dropped to 5 points. Latency was the main dependent variable.

Results: 1) Basically for the first 15 trials the higher the incentive the quicker the response ($p < .05$), 2) After the shift to the lower pay, a) everyone was slower than controls ($p < .08$) and b) the greater the drop in incentive, the slower the response ($p < .01$).

Experiment II

Subject and Methods: This study was exactly as above except that she now looked at positive contrasts after problem 15 (N = 15 men, 15 women).

Results: 1) The controls (who received 40 points) were the fastest, followed by those receiving 20, 10, 5 and no points in that order ($p < .05$), and 2) the reversal again showed that positive incentive contrasts effects are a monotonic function of reinforcement increments.

Weinstein, L. and Colucci, V. M. Increase in incentive amount with verbal reinforcement. Psychonomic Science, 1970, 21 (2), 83-84.

Subject: The goal was to see human subjects' responses to incentive size increments.

Methods: Subjects were 13 male and 11 female undergraduate students. Subjects were randomly assigned to four equal groups: a) N = no reinforcement, b) H = received 7 points after trials 1, 2, 4, 6, 9, 10, 11, 12, and 14, c) M = 3 points through problem 11 and then shift to H, d) L = 1 point through problem 11 then shift to 7 points. The task consisted of 15 mental arithmetic problems.

Results:

1) Latency was the main dependent measure.
2) H took less time than M, M took less time than L, and L took less time than N ($p < .05$).
3) However, contrast effects were not noted after the reversal.

Wernimont, P. F. A systems view of job satisfaction. Journal of Applied Psychology, 1972, 56, 173-176.

Conclusion: This article examines the controversy between the unidimensional versus two-factor views of job satisfaction. He suggests that extrinsic factors should be viewed as the causes of intrinsic factors. The outcomes or results of feelings about extrinsic factors can only be some internal feelings of something which, it is generally agreed, are the intrinsic factors.

He suggests that is more useful for managers to focus on the external variables when trying to improve employee's job attitudes because it is only these variables upon which management can operate directly.

Wilder, S. N. The effect of verbal modeling and verbal reinforcement on the frequency of self-referred affect statements. Unpublished doctoral dissertation. Columbis University, 1967. Dissertation Abstracts, 1968, 28 (10-B), 4304-4305.

Subject: The study investigated the effects of verbal modeling and verbal reinforcement in the frequency of self-referred affect statements (sra).

Methods: Subjects were female college students paid for their participation. Three groups of 19 subjects were individually interviewed, ostensibly about adjustment to college. There was a control group, a modeling group, and a reinforcement group. All interviews were conducted in a uniform manner except for the acquisition intervals of the modeling and reinforcement treatments.

During the acquisition intervals of the modeling interviews the experimenter modeled self-referred affect statements; his verbalization of sra never immediately followed the subject's emission of a sra. During the acquisition intervals of the reinforcement interviews the experimenter immediately reinforced subject's emission of sra on an intermittent and irregular schedule. The reinforcement used was mm-hm. Interviews were divided into three intervals.

Results: The control group displayed a non-significant decline from the first interval to the second intervals and from the second to the third interval. The modeling group displayed a significant increment from base to acquisition to extinction. The reinforcement group displayed a non-significant increment from base to acquisition to extinction.

The modeling group, when compared to the control group, displayed a significantly higher frequency of sra during acquisition and significant increment from base to acquisition relative to the frequency change from the first to second interval of the control group. The reinforcement group, when compared to the control group, did not display any significant conditioning effects. No differences were found between comparisons of modeling effects and reinforcement effects.

The results led to the conclusion that frequency of sra varied as a function of the experimenter's modeling sra.

The finding that frequency of sra did not vary as a function of the operant reinforcement, mm-hm, was primarily attributed to the relatively low number of reinforcements administered.

Williams, M. W. Problem solving persistence as a function of type of reinforcement and need for approval among college students. Unpublished doctoral dissertation. Michigan State University, 1970.

Subject: Experimenter tried to contrast the effects of different reinforcers and differing need for approval on persistency.

Methods: Subjects were 343 undergraduate students. Baseline data of socio-economic level, persistence and need for approval were collected. Subjects were assigned to a) control, b) social reinforcement, or c) material reinforcement (money) conditions.

Results: Social reinforcement was more effective than monetary reinforcement and more effective than control conditions in increasing persistence. Socio-economic level made no impact on persistence. Females responded more persistently than males. Need for approval had no appreciable moderating effect. Need for approval and socio-economic levels were not related. Sex did not predict need for approval.

Witryol, S. L., Lowden, L. M., Fagan, J. F. and Bergen, T. C.
Verbal vs. material rewards as a function of schedule and set in children's discrimination preference choice behavior.
Journal of Genetic Psychology, 1968, 113, 3-25.

Subject: The study investigated the reinforcement and task-relevant motivation conditions under which verbal and material rewards could be compared in a two-choice, discrimination learning, problem-solving situation over a developmental span in the elementary school years. The major independent variables studied included a) reinforcement class-schedule, b) motivation inducing instructions, along with c) age and d) sex; it was also possible to study e) socioeconomic and f) IQ individual differences.

It was hypothesized that a larger reinforcement schedule of verbal incentives would interact with instruction-inducing motivation to enhance the superiority of verbal over material reward in discrimination learning.

Methods: The sample was composed of 80 children, 40 boys and 40 girls. It was drawn randomly within sex from each of grades 1, 3 and 5. A 2 x 2 factorial design varying reinforcement schedule (100% verbal vs. 100% material; 100% verbal vs. 50% material) and instructions ("skill" or "chance") was used. For each subject, response to one of the two stimuli presented over 80 trials was always rewarded with a verbalism, while the alternative choice resulted in the acquisition of a plastic cow, either 100% or 50% of the time depending on the reinforcement condition to which the subject was assigned.

Results: The hypothesis was confirmed, i.e., mean verbal choice increased as a function of instructions, schedule, and age; schedule effects were generally more powerful than instructions.

A triple interaction between instructions, schedules and sex showed that girls were responsive to the Skill instruction at a high level for both schedules in selecting verbal incentives, but under Chance, they were responsive to the 100-50 schedule. Boys did not respond differentially to schedule in the Chance instruction, performing at a relatively low level, but under Skill, verbal choices increased markedly from a low level in the 100-100 to a high level in the 100-50 schedule.

With one exception all samples under all conditions in the major analyses either distributed choices evenly between verbal and material rewards or preferred verbal incentives.

At older ages and for the total sample, the majority of choices were verbal as a function of instructions, schedules or both.

Children categorized low in socioeconomic status (SES) selected more verbal than material rewards, but at levels lower than medium and high SES subjects. High SES children were greatly influenced by schedule conditions while medium SES children were more responsive to instructions.

Yukl, G., Wexley, K. N. and Seymore, J. D. Fffectiveness of pay incentives under variable ratio and continuous reinforcement schedules. Journal of Applied Psychology, 1972, 56, 19-23.

Subject: This study investigated the effectiveness of pay incentives under variable ratio (operant conditioning) and continuous reinforcement (instrumentality theory) schedules.

Methods: The three reinforcement schedules were:
1) 25¢ incentive-continuous
2) 25¢ incentive-50% variable ratio
3) 50¢ incentive-50% variable ratio

15 female subjects scored IBM answer cards. They worked for one hour per day for two weeks. Week one was the no-incentive condition, and incentives were introduced at beginning of second week.

Results: Variable ratio schedule is more efficient than continuous reinforcement schedule.

Zdep, S. M. Intra group reinforcement and its effect on leadership behavior. Organizational Behavior and Human Performance, 1969, 4, 284-298.

Subject: This study attempted 1) to assess the stability of the reinforcement effect in order to determine its practicability in various applied situations and 2) to examine the apparent differential reinforcement effect of positive reinforcement.

Methods: 177 undergraduate subjects completed the California Psychological Inventory (CPI) and were assigned to groups based on their scores. Four-person problem solving groups were constructed on the basis of CPI Leadership scale scores with each group having either one high or low leadership score and three other subjects with intermediate leadership scores. Half of the groups received reinforcement, i.e., the target person (high or low on CPI) received "good", etc., while nontarget persons were given a noxious reinforcement for participation in the group.

Results: Subjects with high CPI Leadership scores talked a great deal more than low scorers. Paticipation levels were further increased for high scorers by reinforcement, but not for low scorers.

Reinforcement cannot overcome the effects of leadership habits brought to the situation as reflected in CPI scores.

Zupnick, S. M. Effects of varying degrees of a peer model's performance on extinction of phobic response in an individual in a group setting. Proceedings of the Convention of the American Psychological Association, 1971, 6 (1), 433-434.

Subject: Previous studies suggest that imitation is most likely to occur when a model is a member of the Observer-Subject's peer group and has demonstrated ability on a task beyond that of the subject's. The present study investigated whether subject performance on a similar task would vary according to a peer model's varying "degree of ability." It was hypothesized that extinction of a phobic response--fear of handling snakes--would increase as perceived model "performance and ability" increased. A second purpose of the study was to determine the influence of group situations on modeling behavior and how they affected extinction.

Methods: 75 college students selected on the basis of their score on Item 38 (fear of harmless snakes) of the Fear Survey Schedule and a failure to touch or hold a harmless two foot long garter snake in a look-touch-hold (LTH) screening test were randomly assigned to one of four conditions in either an individual (confederate male peer model plus subject) or group (confederate model plus group of subjects) setting. In the control conditions, the confederate model was not present. In the experimental conditions, he performed at varying degrees of ability designated as "fearless competent," "peer equal," and "fearful incompetent." Post treatment measures of LTH and Fear Survey were taken.

Results: Significant treatment effects were obtained for subjects in group settings. For the treatment session, the peer-equal group showed significantly greater change than group control subjects in LTH pretreatment-post treatment change score data. They also handled the snake more than the group controls and fearful-incompetent subjects. Follow-up session analysis revealed the fearless-competent group subjects to have made a significantly greater positive change in approach behavior than the group controls. They also handled the snake more than either the fearful-incompetent group subjects or group control subjects.

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